

Air Conditioning &  
REFRIGERATION

## NEWS

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Annual Spring  
ASRE Meeting  
Opens May 27Cincinnati Section Has  
Unusual Program  
Ready For Guests

CINCINNATI—The defense program as it affects refrigeration and air conditioning will come in for a major share of attention at technical sessions of the twenty-eighth spring meeting of American Society of Refrigerating Engineers May 27-29 in the Gibson hotel here.

Technical sessions will open on the morning of May 28, following advance registration and an executive committee meeting on May 27.

With L. L. Lewis as chairman, discussions at this session will include:

"Moisture Migration—A Survey of Theory and Existing Knowledge," by (Concluded on Page 18, Column 1)

Doctors Report Cold  
Treatments Help  
Insane Patients

DETROIT—Advancement of cold therapy on another front—this time in the treatment of insanity, is reported in a current issue of "Time" magazine. Drs. John H. Talbot and Kenneth F. Tillotson of Harvard University applied the treatment to 10 schizophrenics. It was found that when the body temperature was lowered to 90° F. by application of a refrigerated blanket, the insane patients could talk "clearly, logically, and with insight."

Drs. Talbot and Tillotson report that one patient, a 26-year-old woman medical student received three treatments several months apart. The doctors found that her "zone of reason" was between 89° and 95° F., and when her body temperature rose above 96° F. she lapsed into insanity. At the termination of the three treatments the patient "was again an intelligent, social person," although at times she returns to the schizophrenic state. Generally speaking her condition has been improved.

(Concluded on Page 9, Column 3)

Kelvinator To Make  
Plane Propellers

DETROIT—Nash-Kelvinator Corp. will manufacture propellers and propeller hubs in Lansing, Mich., for both arms of the air service, company officials made known here May 19.

The Defense Plant Corp. of the government has acquired a large unit of the Reo Motor Car Co. factory at Lansing for this purpose, and Nash-Kelvinator has been selected to operate the plant, it was said.

Between 2,000 and 3,000 employees (Concluded on Page 18, Column 1)

March Chicago Sales  
Hit All-Time High

CHICAGO—Forty-seven central plant air conditioning systems were sold in Chicago during March to set a new all-time high for the month, reports Commonwealth Edison Co. Combined capacity totals 1,270 hp.

This compares with 38 systems totaling 927 hp. installed in March, (Concluded on Page 18, Column 5)

## Substitutions of Materials

Examples of Changes Which Have Reached, or  
Now Approach, the Quantity Production Stage

Description of Article	Former Material	Substitute Material	Cost After Change
<b>Refrigerator</b>			
Ice Cube Trays	Aluminum	Tinned Copper; Steel	Higher
Door Handles	Die Cast Zinc	Injection Plastic	Same
Interior Fronts	Aluminum Stamping	Steel, Cadmium Plate	Same
Trim on Humidifier	Aluminum	Plastic	Lower
Thermo Housing	Aluminum	Stainless Steel; Plastic	Lower
Evaporator	Stainless Steel	Tinned Copper;	Higher
		Enamel on Steel	
<b>Hydrator</b>	Enameled Steel	Pliofilm Zipper Envelope	
<b>Ranges and Heaters</b>			
Gas Burner Head	Aluminum Die Cast	Cast Iron	Lower
Vent Grille	Aluminum Cast	Steel Stamping	Lower
Kerosene Tank	Zinc	Glass	
Range and Heater Trim	Chromium or Nickel Steel	Plastic	
Kerosene Range Kindler	Asbestos	Woven Glass Fabric	
<b>Other Household Equipment</b>			
Cooking Utensils	Aluminum	Enamel on Steel	Higher
Kitchen Cabinets	Steel	Wood	
Dinette Table Tops	Steel	Laminated Wood	
Washing Machine Agitator	Aluminum	Plastic	Lower
Washing Machine Clutch Handle	Die Cast Zinc	Plastic	
Vacuum Cleaner Dome	Die Cast Aluminum	Injection Plastic	Lower

Wholesalers and Retailers Are Urged To  
Do Their Part In the 'War of Metals'

NEW YORK CITY—This is a "war of metals" and manufacturers must substitute non-metallic materials for metals wherever possible, is the solemn warning sounded by Walter Mitchell, Jr., director of surveys for Dun & Bradstreet, in a special pamphlet just issued by that organization.

Little is gained by jumping from the frying pan into the fire by the substitution of one metal for another, Mr. Mitchell warns. Manufacturers must initiate the move, wholesalers and retailers must be prepared to sell and service redesigned products, he declares.

"Manufacturers are confronted with an engineering problem, in some instances involving complete new designs for parts and retooling of shops," declares Mr. Mitchell. "Wholesalers and retailers must restrain sales forces in a new and sometimes unfamiliar viewpoint. Honest open-minded effort will discern cases where these substitutions result in new and better products rather than mere imitation of the pre-defense product."

"Some peacetime assets may yet be salvaged out of the monumental liabilities of war preparation, if the evolution of improved design and better manufacturing processes is encouraged. But to an even greater extent sacrifices in quality and quantity of consumer goods are inevitable. The necessity must be faced."

The attitude of wholesalers and retailers can do much to ease the

strain of such changes as are indicated in the table titled "Substitutions," declares Mr. Mitchell. They should, he feels, promote those which are improvements, and bear with the remainder. Conversely, distributors by their opposition obstruct manufacturing changes intentionally; and unintentionally their own immediate business future. Such action would only hasten the date and increase the severity of the inevitable shortage.

"The obvious question arises," reasons Mr. Mitchell, "why not expand our metal-producing capacity, rather than revise the entire industrial economy merely to save metals? The answer seems to be that time works against us. Expansion of capacity is being vigorously encouraged, but military needs seem likely to swell far more rapidly than our ability to fill them."

"Conspicuous argument has raged around this question of steel capacity. The steel industry remembers the crushing load of alimony paid for the excess capacity which it married during the last war."

"It also points out that the construction of new capacity will require large quantities of steel otherwise available for immediate defense requirements. Moreover, on the basis of past experience in the steel industry, a dollar of new investment can only hope to yield about one dollar per year of additional output at best."

"The expansionists point out that French industrialists apparently (Concluded on Page 18, Column 5)

## Steps Up



R. W. TURNBULL

Turnbull Promoted  
To New Executive  
Post At Hotpoint

CHICAGO—R. W. Turnbull, formerly first vice president of Edison General Electric Appliance Co., has been elected executive vice president, a newly created post in the company.

In other Hotpoint promotions, I. W. Rose, factory works manager, has been elected vice president in charge of manufacturing, and J. C. Sharp, chief engineer, has been named vice president in charge of engineering.

Mr. Turnbull has been the com- (Concluded on Page 4, Column 2)

Krackowizer Dies  
In Beaumont, Tex.

BEAUMONT, Tex.—H. J. Krackowizer, founder and president of Refrigeration Appliances, Inc., manufacturer of fin coils and unit coolers for the refrigeration trade, died here Saturday, May 17.

Mr. Krackowizer formed his company early in the 1930's after having served in an executive capacity with other refrigeration equipment firms. To everyone in the industry he was known as "Krack" and his products were officially designated as "Krack" coils. He introduced several unusual designs in unit cooler equipment.

Funeral services were set for 4 p.m. Wednesday, May 21 at Lain's North Side Chapel, Chicago.

NRDGA Seeking  
Tighter Credit  
To Avoid 'Fall'10% Down, 24-Months'  
Terms Suggested Now,  
More Changes Later

NEW YORK CITY—Tightening of credit terms by increasing the amount of down payment and reducing the number of months over which payments may be made is being recommended by the National Retail Dry Goods Association to its member stores, it was revealed here May 17 by J. Anton Hagios, manager of the association's credit management division, who declared it was imperative that such action be taken immediately or the result would be a "terrific fall" for installment selling.

Noting that during recent years there has been a steady weakening of the usual credit safeguards in that payments have been allowed to become "excessively long," Mr. Hagios urged that "steps be taken now to restrict and readjust the installment terms structure."

The National Retail Dry Goods Association, he said, is recommending that stores tighten terms to where the maximum ceiling of 24 months would be allowed on electrical appliances with a minimum down payment of 10% of the cost of the goods. Proportionately lower terms, he said, should be established for all other commodities sold on the installment plan.

Within another six months, certainly some time in the fall season, Mr. Hagios said, retailers should (Concluded on Page 18, Column 3)

Coast Firms Ponder  
Anti-Trust Defense

LOS ANGELES—Defense of manufacturers and distributors of mechanical refrigerators against indictments by a Federal grand jury here charging violations of the Sherman Anti-Trust Act, will probably be based, it is rumored, on the fact that the business was intrastate and therefore not under the Sherman Act provisions, and that the manufacturers had a right under the California fair trade act to establish minimum prices and provide for adequate enforcement.

The indictments are thought to be an attack by Assistant Attorney General Thurman Arnold on fair trade legislation.

Steps taken by Mr. Arnold's agents (Concluded on Page 18, Column 2)

Virginia Area Sales Jump  
1,000 In 1st Quarter

ALEXANDRIA, Va.—Nearly 1,000 more electric refrigerators were sold by dealers in the territory of Virginia Public Service Co. during the first four months of the year than were sold during the corresponding period of 1940. Actual figures were as follows, according to utility reports: four months 1941, 4,330 units; four months 1940, 3,363 units.

Water heater sales also showed a decided increase for the four month period, but range sales dropped off sharply.

This same general trend was apparent in sales reports for April alone.

Appliance	April 1941	April 1940	4 Mos. 1941	4 Mos. 1940
Refrigerators	2,142	1,681	4,330	3,363
Ranges	178	410	552	638
Water Heaters	102	68	221	133

## Every Hand Raised Is a New Prospect



This picture is dramatic evidence of the new markets for appliances that the defense industry is opening up. The photograph was taken at the fifth annual Spring Fair of the Bureau of Radio & Electrical Appliances of San Diego, Calif., which city is the center of much defense activity. The master of ceremonies has just asked all newcomers to the community to raise their hand.



## High-Flying Distributorship Provides Airplane Rides To Promote Sales



Well known for its enterprising promotions and selling plans, James & Co., St. Louis G-E distributor, frequently gives free airplane rides to salesmen, dealers, and prospects. All ready for a flight are: (Left to rear): Chas. Phillips, E. H. Zierenberg, A. J. Buckel, Joseph Piazza, A. J. Schulte, Jack Shannon. (Standing): W. D. McKelvey, Mr. Scott, R. W. Brenner, Miss Flanagan. (Seated, rear to front, left to right in each seat): A. J. Crivello, Wm. P. Mackle, Jack Butler, E. F. May, E. J. Repetto, Chas. Frick, Herman Gaiman, Wm. Huxel, Walter Moon, Ivan Kramer, A. J. Drury, and W. A. Johnson.

### Names of Prospects Win Free Ironing Sets

CASPER, Wyo.—The Radio Supply Co. which recently became dealer for Westinghouse refrigerators, has launched a spring and summer sales campaign featuring the EHFA payment plan, and enrolling Casper women in the drive by recompensing them for tips on prospective customers. For every prospect whose name is submitted by a woman in the Casper area and who buys a refrigerator, washer, or range, the woman will be presented with a \$14.90 General Electric ironing set including iron and table.

The prospect may be a husband, friend, neighbor, or relative, and the only restriction on the offer is that the woman submitting the name must have been the first to do so. The store is furnishing coupons for the convenience of the "tipsters," with space to designate two names besides the name of the woman, and to indicate whether the prospects are interested in a washer, range, or refrigerator. Names also may be telephoned in.

Appliances that are being displayed and advertised in connection with the campaign include General Electric, Kelvinator, and Westinghouse refrigerators, Dexter washers, and General Electric and Tappan ranges.

### Hughes-Peters Electric Changes Name In Reorganization

COLUMBUS, Ohio — Reorganization of Hughes-Peters Electric Corp., addition of new capital, and change of name for the firm have been announced by Mrs. F. F. Miller, of Columbus, who has acquired the controlling interest in the company.

Mrs. Miller has purchased all interests of the company held by J. L. Hughes, the late H. W. Peters, and Willis Liggett, administrator for the estate of Fred Freeman. William A. Wilson is president and general manager of the reorganized company.

New name of the firm is Hughes-Peters, Inc. The company distributes a complete line of electrical appliances and is one of the largest radio supply houses located in central Ohio.

Under the new capital structure, the company will have an authorized capital of 1,000 shares of 5% preferred of \$100 par value, and 2,200 shares of no par value common stock, with a stated value of \$25 per share, providing an authorized capitalization of \$155,000.

Most of the former shares have been retired as a result of the reorganization.

## Old 'Hidden Microphone' Trick Sells 20 Units At St. Louis Show

ST. LOUIS—Reviving the old trick promotion scheme of having appliances give their own sales talks through a concealed public address system brought Biederman Furniture Co. sales of 20 refrigerators and a comparable volume of other appliance business through its "wired for sound" model home at the recent two-week St. Louis Home show.

In addition to the six-room model home, the firm, a Norge dealer, had four displays of appliances at the municipal auditorium, site of the show. Visitors were invited to go in the house.

When a visitor opened a refrigerator in either of the two model kitchens, she discovered the box was filled with food, sealed in transparent wrappings. Then the refrigerator began to "talk." A woman "announcer" was concealed in a central point where she could observe each appliance and the visitors.

Salesmen "caught" prospects at the rear door of the model home, and made sales quickly while interest was still "hot."

### Hotpoint Gives Range To Kate Smith



Miss Kate Smith, "songbird of the air," is congratulated on her birthday by George A. Hughes, chairman of Hotpoint. Mr. Hughes earlier presented Miss Smith a replica of Hotpoint's millionth range.

NEW YORK CITY—For a birthday present, an exact replica of Hotpoint's gold-trimmed one-millionth electric range was given to Kate Smith, radio's "songbird," by George A. Hughes, chairman of Hotpoint and "father of the electric range."

The original one-millionth range had been presented to Henry Ford for the Edison Institute museum at Dearborn, Mich. Mr. Hughes and Hotpoint felt that the contributions to better living and happiness made by Miss Smith and her radio sponsor, General Foods, most closely approximate the contributions made by electric cooking development.

### Sales In Dallas Soar During March

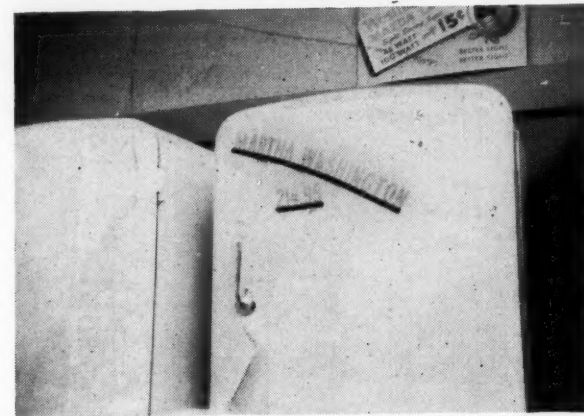
DALLAS, Tex.—March household refrigerator sales in the territory served by Dallas Power & Light Co. totaled 1,587 units, compared with 1,347 reported for the same month last year. Refrigerator sales for the first quarter of the year reached 4,030, against only 2,702 for the first three months of 1940.

Dollar volume of refrigerator sales was estimated at \$222,180 for March, and \$564,200 for the year's first quarter.

A more complete tabulation of unit sales of major appliances in the Dallas utility's territory follows. Comparisons with 1940 figures are given where available.

Appliance	March 1941	March 1940	3 Mos. 1941	3 Mos. 1940
<b>Household</b>				
Refrigerators	1,587	1,347	4,030	2,702
Ranges	5	5	17	9
Water Heaters	4	...	5	...
Radios	2,729	2,229	6,803	5,319
Washers	453	339	1,075	717
Dishwashers	4	...	11	...
Ironers	21	13	75	33
<b>Commercial</b>				
Refrigerators	20	...	57	...
Water & Beverage Coolers	46	...	101	...
Low Temperature Cabinets	7	...	12	...

## Dealer Proves One Price To All Claim By Putting Labels on Refrigerators



Red celluloid letters and numerals bound and attached with black adhesive clearly show how much each refrigerator displayed by Electric Supply Co. costs.

### Carolina Sales Up In First Quarter

RALEIGH, N. C.—Major appliance sales in the territory of Carolina Power & Light Co. for the first quarter of the year showed general increases all along the line compared with sales during the corresponding period of 1940.

Refrigerator sales by both dealers and the utility for the three-month period totaled 1,968 units, compared with 1,826 units during the same period of 1940. Range sales for the first three months of 1941 totaled 939, compared with 830 for the same period of the previous year; water heater sales were 331, compared with 295.

Sales by the utility itself, as usual, constituted only a small part of the total. Utility refrigerator sales for the three-month period were 14, range sales were 69, water heater sales were 49, and vacuum cleaner sales were 5.

A more complete tabulation of dealer-utility sales for the first quarter of the year, as compared with the same period of 1940, follows:

Appliance	First Quarter 1941	First Quarter 1940
Refrigerators	1,968	1,826
Ranges	939	830
Water Heaters	331	295
Radios	11,891	8,567
Vacuum Cleaners	587	379
Washers	1,466	1,045

### Royal Furniture Named General Electric Dealer

CLINTON, N. C.—Royal Furniture Co., headed by A. D. and J. S. Royal, has been appointed General Electric dealer here.

### Home-Made Price Tags Attached To Boxes

CAPE GIRARDEAU, Mo.—Red celluloid letters and numerals attached with black adhesive tape to the front of refrigerators convince prospects that Electric Supply Co., 733 Broadway, here, quotes the same price to everyone. The scheme further helps selling by permitting prospects to see at a glance models in the price range which interests them.

"Formerly we did not mark any merchandise," explains E. M. Doyle, owner of the store. "When customers asked the price, we kicked it up, then gave them a little off. This practice finally led to the point where all prospects began to feel that they weren't getting any discount at all or that different customers were being quoted different prices for the same box."

A "font" of letters and numerals was purchased for \$7. To form the price tags, letters and numerals are placed on a flat surface and bound together by placing a strip of black tape along their bottom edges. The whole tag is then attached to the refrigerator with the tape. Smoothness of the refrigerator's surface makes the tag easily and quickly removable.

### Alabama Dealers Hear Hotpoint Plans For Ranges

BIRMINGHAM, Ala. — Alabama Hotpoint dealers heard range advertising plans discussed at a recent meeting here by George H. Smith, Hotpoint's general merchandising manager; H. P. Dewees, southeastern district manager; and E. G. Walker, Birmingham merchandising manager.

## MAKE MONEY SELLING THIS REVENUE-PRODUCING EQUIPMENT



NEW TUTHILL JUNIOR ICE CREAM PLANT

### A COMPLETE ICE CREAM PLANT that Occupies Less Than 12 Square Feet

For grocers, bakers, druggists, confectioners, super-food markets, chain stores, restaurants, hotels, schools, department and variety stores, etc. Produces ice creams, frosted malteds, ices, sherbets and frosted fruit drinks.

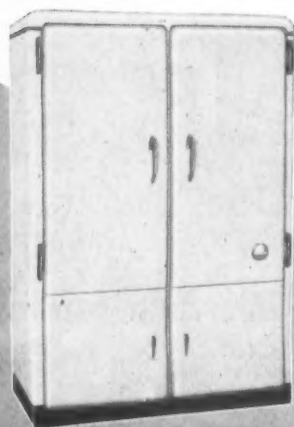
DISTRIBUTORS: Write for Details and Franchise Facts Today

REFRIGERATION PRODUCTS DIVISION  
TUTHILL PUMP COMPANY  
935 EAST 95TH STREET • CHICAGO, ILLINOIS



MOST COMPLETE 'REACH-IN' LINE ON THE MARKET!

Here's the widest selection of sizes and styles the industry affords—a model for every need. Distinguished by superb styling, fine construction and outstanding value.



Model 120 (above) has 12 cu. ft. capacity—the newest member of the "Midwest 'Reach-in'" family.

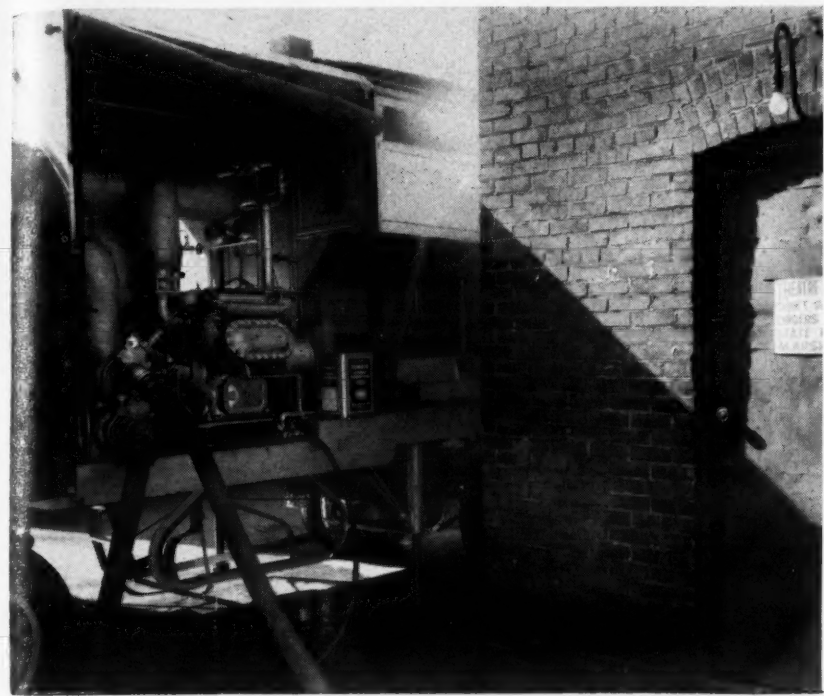
Model 700 (right) another new model has 71.5 cu. ft. capacity. In between is a full range of sizes and equipment. Write for full details now.



**Midwest MFG. COMPANY**  
Galesburg, Ill., U.S.A.  
Export Division, Merchandise Mart, Chicago



## Simple, Portable Ice Skating Rink Developed For Traveling Ice Shows



Brine hoses are attached to carry brine to the skating rink being set up on the stage inside of the theater. Contrivance in the center of the truck is the York ammonia compressor—heart of the freezing system. Compressor is driven by a Ford V-8 engine on the other side of the truck.

CONNERSVILLE, Ind.—A completely portable ice skating rink which can be assembled in just a few hours and placed in operation anywhere—from a dance floor to a baseball diamond—has been developed by N. Taylor Todd, local investment broker, and is now actually being "field tested" by a traveling ice show organized by Mr. Todd under the name of Winterland Ice Revue, Inc.

When Mr. Todd, an ice skating enthusiast, who admits that he knows very little about refrigeration, first conceived the idea of a portable rink, he decided to talk the idea over with a number of refrigeration engineers. Most of these engineers simply laughed the scheme off, and denounced it as utterly impractical on the grounds that it was impossible to set up an ice rink without complicated piping and endless plumbing.

### KUHNS ENCOURAGES TODD

One man to whom Mr. Todd outlined his plan, however, thought that the idea had definite possibilities. This man was James Kuhns, salesman for Westerlin & Campbell, York distributorship. Mr. Kuhns encouraged Mr. Todd and suggested to him that he build a few sections of his proposed rink.

With the assistance of Elmer Hunt of National Ice & Fuel Co. of Indianapolis, these first trial sections were set up in the garage of Mr. Hunt's ice plant, and exhaustive tests were run. A young engineer named James Cunning became interested in the enterprise at this stage of the game, and managed to collect data from which Westerlin & Campbell engineers were able to figure exact refrigeration requirements.

### RINK HAS NO TUBING

The rink that was developed through the efforts of these men differs from the orthodox ice rink primarily in that it contains no tubing at all, and as a result can be set up in a matter of hours rather than days. It consists simply of steel sections, each of which is 19½ feet long, 2 feet wide, and 3 inches thick including insulation. Each section weighs 500 pounds empty, and about 580 pounds when loaded with its required amount of brine solution. Each section has its own permanently sealed cork insulation.

To erect the rink it is necessary only to connect each section to the brine supply and return headers at one end. A number of sections can be laid side by side, or end to end and fastened together by means of a special clamping device to form as large or small an ice rink as desired.

Ice is formed simply by spraying the pre-cooled steel tops of the rink sections until the desired thickness is obtained. Cracks between sections are frozen over on a preliminary "sealing" spray.

Rink sections are well protected on the bottom with treated canvas, so that they can be laid anywhere without damaging the surface on which they are placed.

Brine to freeze the rink is supplied by a completely portable York brine refrigerating system built onto a truck chassis. The Westerlin & Campbell firm assisted Mr. Todd in the design and construction of this unit.

### REFRIGERATION SYSTEM

The refrigerating system consists primarily of a 35-ton York "V/W" ammonia compressor to cool the brine held in a large York brine cooler. Heat picked up in freezing the ice is dissipated from the system by a York evaporative type condenser.

To make the system completely independent of electric power lines, a V-8 Ford Mercury engine is used to drive the compressor and two 1-cylinder Wisconsin gasoline engines run the evaporative condenser and brine circulating pump. Even make-up water for the evaporative condenser and the compressor-head cooling system can be supplied from a water tank carried with the outfit. Thus this refrigerating system-on-wheels is completely portable and self-contained, and can be operated anywhere without depending on any outside source of supply.

### REVUE ORGANIZED

To provide his brain child with a thorough-going field test, Mr. Todd organized Winterland Ice Revue, Inc. with himself as president and treasurer, Larry Jacobs as booking and publicity agent, and Mr. Cunning as engineer. He then succeeded in securing the services of Dorothy Franey, Olympic star and holder of many speed skating records, as star and director of the ice revue. There are 14 performers in the troupe at present.

Opening show of the Winterland Ice Revue was held in the little Auditorium Theater in Connorsville, Ind., and was reported as being highly successful. Bookings have been made far ahead for all parts of the midwest, it is claimed.

Says Mr. Todd of his portable rink development and his ice show: "I'm not a show manager, I'm an investment broker. I hope to develop the business in such a manner that my company will have enough of these portable ice rinks available in various sizes so that they may be rented for use wherever an ice show is wanted."

### Eiker & Son Takes G-E

SPARTA, Ill.—Eiker & Son, local appliance dealership, has taken on the complete General Electric line. Free movies and gift kitchen tumblers featured the formal opening, which was attended by more than 175 women. A. J. Brock and Henry Weiss, executives of James & Co., St. Louis, G-E distributor in this territory, also were present.

## Single 'Pay-Trial-Plan' Sale Leads To Order For 88 Window Ventilators

CHICAGO—Selling 88 Carrier window ventilators to one company would give most salesmen grounds for endless boasting—but not Robert Roether of Air Comfort Corp. The ventilators were installed for Smith & Wheeler, agents for the Hartford Fire Insurance Co., who occupy three floors of the Wrigley building here.

Mr. Roether is extremely modest about the whole thing. In the first place, one unit was placed in the office of C. H. Smith on the pay-trial plan originated by Gordon Thomas, sales manager of Air Comfort Corp., which was described in AIR CONDITIONING & REFRIGERATION NEWS last year. Under this plan the prospect pays a nominal amount for use of the conditioner over a 5-day period, and has the option of buying it, or returning it at the end of that time.

In reporting his work in connection with the Smith & Wheeler sale, Mr. Roether says, "If a salesman were asked to describe a perfect prospect for this type of equipment, he could not imagine so many favorable factors in a sale."

"A trial of one ventilator was suggested to C. H. Smith of Smith & Wheeler approximately one year before the main sale was made. This trial was suggested for Mr. Smith's office in which frequent meetings were held. The single unit was installed, and after a five-day trial, Mr. Smith announced the company's satisfaction with the greatly improved ventilation during the meet-

ings—some of which lasted two or three hours with the smoking and lack of air change attendant in most business conferences," Mr. Roether said.

At the time the first sale was made, the subject of further ventilation of other offices was approached by Mr. Roether. Mr. Smith said he realized the general need for better ventilation throughout most of the offices, which is common in all large office buildings, particularly in the cold winter months, but inasmuch as the renewal of the lease was being brought up for consideration in the fall, an undertaking of this size would have to be postponed until that time.

Mr. Roether is modest—but he was on the job. He reports:

"I periodically contacted Mr. Smith during the intervening months, and when the lease was renewed, I was informed of this. At Mr. Smith's suggestion, a survey of the offices was made, and a proposal offered to Smith & Wheeler for their consideration."

Following this several units were installed on the pay-trial basis similar to the one used in the original sale. These units were placed in two large rooms which, for various reasons, were considered the most difficult to ventilate.

"When these units had proven satisfactory," Mr. Roether continues, "C. H. Boynton, the office manager, gave me an order for 78 units and

later another order for an additional 10 units. These 88 units were placed in various sized offices, and the number of units in these offices ran from one in a private office to as many as 16 in one large office with outside windows on three sides. In the large offices, careful consideration was given to the number of people, their location, radiators, and furniture in order to get even distribution of air."

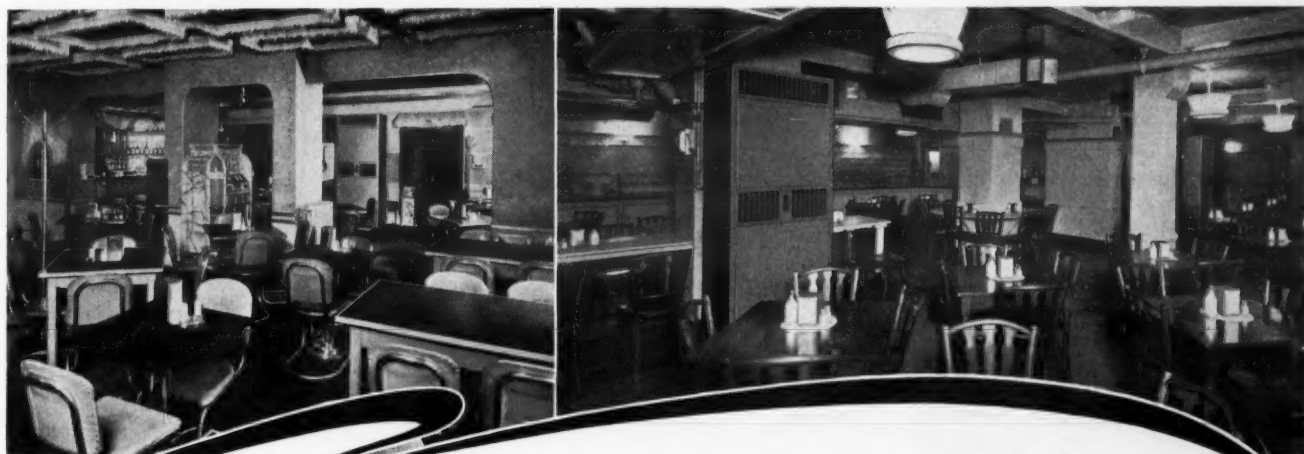
Mr. Roether insists that the large insurance agency was an "ideal prospect." His reasons for believing this is that the company gave him a "good audience" to present his product and his idea. In the second place the company acknowledged a ventilating problem, particularly in cold weather. This was backed by a sincere desire to correct the problem and the financial ability to carry it out. Finally, Mr. Roether reports, "excellent cooperation from all departmental managers, and great goodwill from employees when the units were first installed."

Since the ventilating units were installed, several managers and employees have mentioned voluntarily, that the "afternoon fatigue" has been noticeably reduced.

Mr. Roether did everything a salesman could do to obtain a big order, and then says the whole thing was "a natural," and not his work at all.

## Showroom Air Conditioned

WASHINGTON, D. C.—New air conditioned Hotpoint appliance sales and showrooms have been established by Simon Distributing Corp., distributor, on the second floor of its headquarters at 2501 H St.



## ANOTHER Great Market For Dealers Selling CURTIS Packaged Air Conditioning

**Air Conditioning Increases  
Restaurant Revenue  
an Average of 36%  
(American Restaurants)**

Results of a nation-wide survey made by American Restaurant Magazine show that air conditioning increases total restaurant revenue an average of 36%—the range was from 15% to 80%! Summer check averages were up 53%!

Air conditioning has definitely proven itself a most valuable asset to many lines of business, but probably nowhere in the retail field is it so important as it is to restaurants.

This great market is only one of many, many businesses that are live prospects for the dealer selling Curtis Packaged Air Conditioning. Curtis Units are available in a wide range of sizes, from 3 to 15 tons, suitable for practically any retail application.

Write to Curtis today for full information on the many advantages of selling the complete Curtis line.

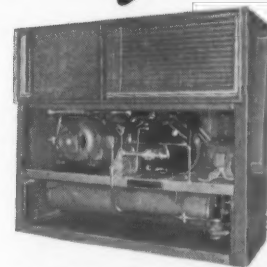
### Curtis Refrigerating Machine Company

1912 Kienlen Ave. St. Louis, Mo.

Established 1854



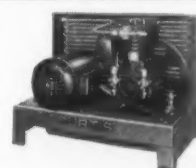
Division of Curtis Manufacturing Company



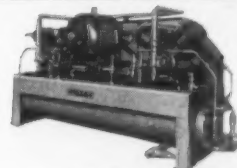
Central Type Air Conditioners  
in 7½, 10 and 15 ton models



Packaged Air Conditioning  
Units in 3 and 5 ton sizes



1 H.P. Air Cooled Unit



15 H.P. Shell and Tube Unit

### The Curtis Line is Complete

• The Curtis line includes 45' air cooled condensing units from 1/6 to 5 H.P.; 48' water cooled condensing units from 1/3 to 50 H.P.; saturated air condensers; coils and forced draft unit coolers for refrigeration and air conditioning.



Saturated Air Condenser



## In New Executive Posts At Hotpoint



I. A. ROSE



C. E. REED

Hotpoint Advances  
Rose and Sharp To  
Vice Presidencies

(Concluded from Page 1, Column 4)  
pany's first vice president since March, 1940, and was vice president in charge of sales from 1931 to 1940.

Mr. Turnbull began his appliance career in 1909 as a salesman for Southern California Edison Co. The following year he joined Pacific Electric Heating Co., Ontario, Calif., which made the original line of Hotpoint electrical appliances. When the present Hotpoint organization was formed in 1918, he became sales representative for the Pacific Northwest, and in 1924 was made Pacific Coast district manager.

Mr. Sharp joined Hotpoint in 1929 as assistant to the range engineer, becoming range engineer in 1936 and chief engineer in 1937, succeeding the then vice president in charge of engineering, the late C. P. Randolph. Mr. Sharp will continue to carry out the duties of chief engineer in his new official capacity.

Mr. Rose has been factory works manager for the past two years, and will continue to supervise manufacturing operations in all of the company's plants. He joined Hotpoint in 1922 in the factory methods division, and a year later, was made foreman of Hotpoint range manufacturing. He has subsequently held the position of assistant superintendent.

H. M. Brennehan was appointed auditor for Hotpoint, succeeding P. L. Griffin, resigned. C. E. Reed was named auditor of factory accounts.



J. C. SHARP



H. M. BRENNEMAN

Howell Manages G-E  
Schenectady Works

SCHENECTADY, N. Y.—J. M. Howell, executive assistant to E. D. Spicer, manager of the General Electric Co., has been named to succeed his chief who has been advanced to the post of assistant to the vice president in charge of manufacturing.

Appointment of Mr. Howell as works manager marks the high point of a career with General Electric which started nearly 40 years ago, when he was engaged on Sept. 25, 1901, as a shop clerk in the old switchboard department in Building 23.

After having worked in a wide variety of jobs with the company, Mr. Howell was appointed works accountant in 1923, succeeding H. L. Baltozer who became assistant to the late Charles E. Eveleth, works manager. Upon retirement of Mr. Baltozer in 1937, Mr. Howell became executive assistant to Mr. Spicer.

## Bendix Executive



HUGH R. JOHNSTON

Hugh Johnston Named  
Bendix Vice President

SOUTH BEND, Ind.—Hugh R. Johnston has resigned his position with Atlas Corp. and has been elected executive vice president of Bendix Home Appliances, Inc.

Mr. Johnston was formerly treasurer of Guaranty Trust Co. of New York, which position he resigned to become president of Sterling Securities Corp. at its inception in 1928. This company was merged with Atlas Corp. in October, 1936.

Parry To Manage Newark  
Sales For Westinghouse

NEWARK, N. J.—Joseph S. Parry has been appointed manager of the Newark sales office of Westinghouse Electric & Mfg. Co., succeeding Gordon Hamilton. Mr. Parry has been with Westinghouse since his graduation from Princeton in 1920, and has held such positions as manager of the general mill section.



"HAVE CLARAGE  
MAKE THEM!"

Every year we ship to builders of air conditioning units thousands upon thousands of Clarage Blower Wheels and Assemblies.

This smaller equipment is designed with the same skill characteristic of the larger Clarage apparatus—just as carefully fabricated and tested.

And we have sizes to meet ALL REQUIREMENTS—with slow speed operation insuring SILENT PERFORMANCE.

May we have your next inquiry?

CLARAGE FAN COMPANY  
KALAMAZOO, MICHIGAN  
Sales Offices in All Principal Cities



## New Detroit Lubricator Field Man



William G. Andrews (left), new Detroit Lubricator representative in Virginia and the Carolinas, is shown here with E. S. Diggle, manager of the Henry V. Dick Co. branch at Columbia, S. C. Mr. Andrews will make his headquarters in Winston-Salem, N. C. Before joining Detroit Lubricator, he was an instructor at Technicians Institute, New York City.

Nance To Direct Sales  
For Zenith Radio

CHICAGO—J. J. Nance has resigned as vice president and general sales manager of Easy Washing Machine Co. to become vice president and director of sales for Zenith Radio Corp.

Mr. Nance assumes the position formerly held by E. A. Tracey, who has become president of Majestic Radio & Television Corp.

He has been with Easy since 1939, prior to which he was vice president and general manager of Delco-Frigidaire conditioning division of General Motors, and before that held various executive posts with Frigidaire. Mr. Nance received his early business training with National Cash Register Co.

R. J. Vandergriff Heads  
Laclede Appliance Sales

ST. LOUIS—W. A. Hudson, who has been general manager and head of the home heating and appliance sales division of Laclede Gas Light Co., has resigned his position. R. J. Vandergriff has been appointed to succeed him.

Mr. Hudson was appointed house heating supervisor in charge of domestic gas burner conversions and gas heating furnace sales in October, 1939, and in May, 1940 was advanced to sales manager in charge of general appliance and heating sales. He also conducted sales management exhibitions and cooperative promotions with St. Louis heating and catering firms.

Quinn Named Palco Wool  
Eastern Representative

NEW YORK CITY—Harry J. Quinn, formerly associated with Frigidaire, has been appointed sales manager in the Atlantic states for Pacific Lumber Co., maker of Palco Wool insulation. He will headquarter at the company's eastern offices here.

## OBITUARY

## George R. Munschauer

BUFFALO — George R. Munschauer, 61, treasurer of Heinz & Munschauer, refrigerator manufacturer, died in his home here recently of a heart attack, following an illness of three months. Mr. Munschauer was also president of Niagara Machine & Tool Works, and was a member of the Rotary club, Knights of Columbus, and the Buffalo Chamber of Commerce.

## Albert D. Babson

NEWARK, N. J.—Albert D. Babson, a pioneer in the development of electrical appliance merchandising, died here April 21 after an illness of over a year. His son, Thomas E. Babson, is secretary and sales promotion manager of Philip H. Harrison & Co., General Electric distributor for northern New Jersey.

Born in Gloucester, Mass., 70 years ago, Mr. Babson graduated from Tufts College in 1890, and received from the same institution a master's degree in engineering the following year. In 1891 he entered the employ of Edison General Electric Co. as an estimator in its New York office, and remained for 40 years with that company and its successor, the present General Electric Co., until his retirement in 1931, the last 25 years as manager of the supply department of the New York district.

In the latter capacity he was responsible for the establishment of the first sales outlets for General Electric refrigerators in New York, New Jersey, and Connecticut.

Mr. Babson was an associate member of the Edison Pioneers, member of Quarter Century Club of General Electric Co., and a former member of the Engineers and Machinery clubs of New York City, and of the American Institute of Electrical Engineers. He was a direct descendant of John Tilley and John Howland, who came over in the "Mayflower," and of Lieut.-Col. John Low of the Massachusetts militia, a delegate to the Constitutional Convention.



It's here!  
NEW 1941 EDITION OF  
"America's  
Belt Bible"



Here's the information you need to fit small belt installations quickly and surely. This handy pocket size Belt Bible cuts out guesswork, saves you time, trouble and lost profits. It's complete and authoritative—lists belts required for over 7800 models and makes of electric refrigerators, as well as other belt-driven equipment, by lengths, cross-sections and manufacturer's part number.

L. H. GILMER COMPANY  
Tacony, Philadelphia, Pa.

SEND for your FREE copy of America's Belt Bible now!

L. H. GILMER COMPANY  
Tacony, Philadelphia, Pa.  
Please rush me a FREE copy of the new 1941 edition of "America's Belt Bible."  
NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
CITY \_\_\_\_\_  
STATE \_\_\_\_\_

America's Belt Bible—  
new 1941 edition—com-  
plete listing of belts for  
Electric Refrigerators  
Oil Burners  
Bottle Coolers  
Milk Coolers  
Room Coolers  
Beer Pumps  
Stokers  
Washing Machines, etc.

**Refrigeration COPPER TUBING--**

"BRIGHT as Gold" inside and out is no accident in our plant. Even bare hands do not touch SUPERIOR tubing in its journey through our large new plant.

**ENDS ARE SEALED**

**PENN BRASS & COPPER CO., INC.**  
POWELL AVE., ERIE, PENNA.



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GENERAL  ELECTRIC  
**SCOTCH GIANT**  
*Condensing Units*  
Thrifty... Powerful...  
Rugged... Dependable



GENERAL  ELECTRIC

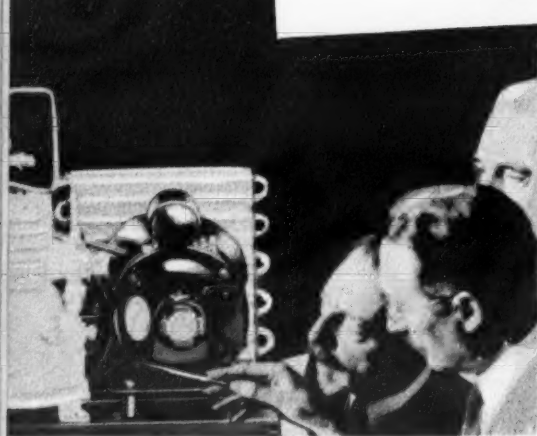
# SCOTCH CONDENSING



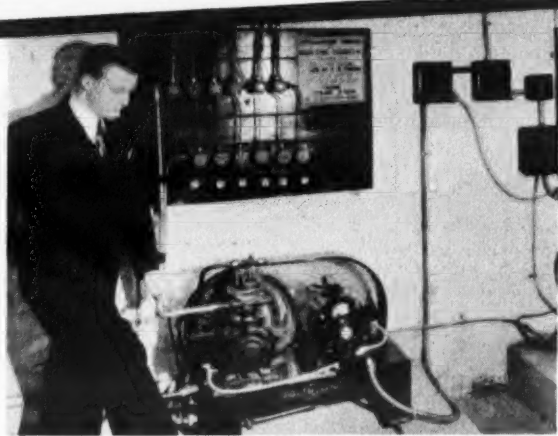
# GIANT UNITS

*rugged . . . powerful . . . dependable . . . thrifty*

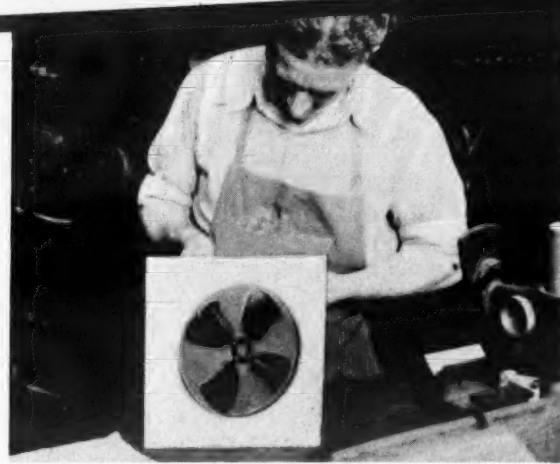
HERE'S HOW research, craftsmanship and mechanical precision are combined to make the G-E Scotch Giant the most efficient condensing unit you can buy for low cost operation.



**Tireless Engineers**—with the tremendous facilities and experience of the General Electric Co. at their disposal—are ever striving to perfect methods . . . always devising new improvements.



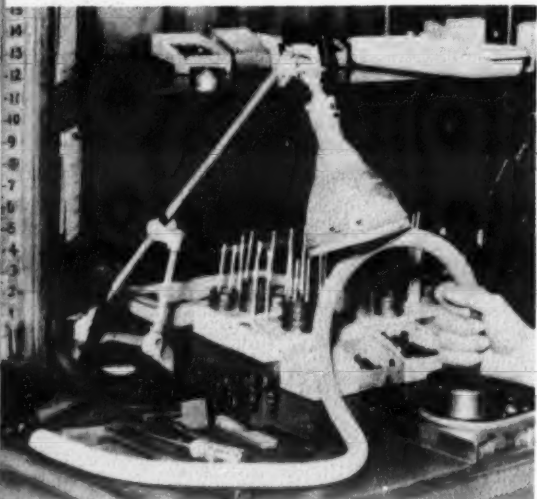
**Right in the field** are other G-E technicians testing, observing and compiling data for refrigeration advancements. From these testing grounds comes a wealth of actual "consumer" experience.



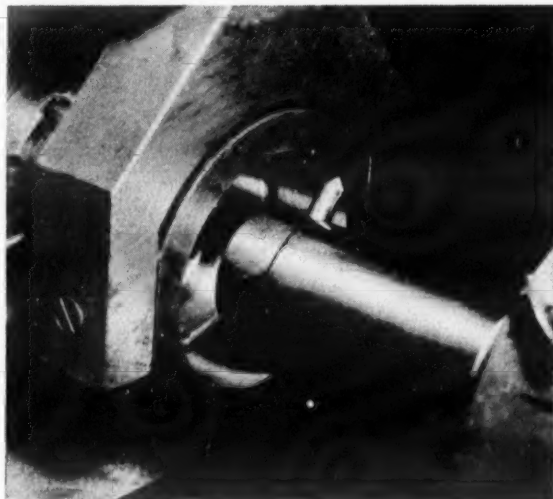
**The aphonic fan** is a typical example of such research. It is 15% more efficient and 40% quieter than ordinary fans. A streamlined shroud on the condenser helps distribute air flow uniformly.



**Assembly of shaft seal** is made in a dustproof room, and all inspections are made through microscopes. Seal is of balanced bellows type, engineered to prevent leakage of refrigerant or oil.



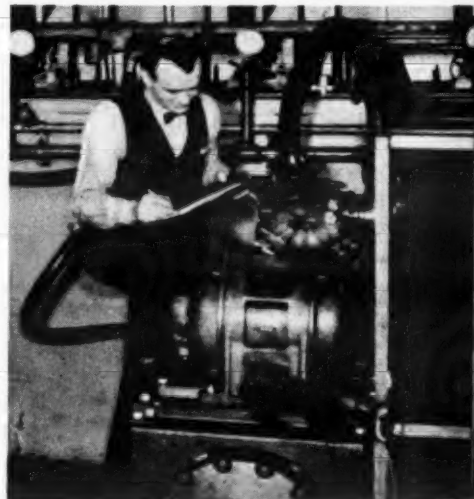
**Valves** are of polished Swedish steel. Assembly and test are made under a full vacuum. **ALSO:** the use of plated copper gaskets prevents oil and refrigerant leaks, assures years of service.



**Connecting rods** are accurately bored with a diamond tool. Cylinders are honed to .0005 inch tolerance. Pistons are matched individually with cylinders to obtain the finest natural fit.



**Not a man from Mars** but a G-E worker in full dress, employing arc welding on a condenser-receiver . . . To assure a sturdy finish Glyptal base lacquer is sprayed on the compressors.



**601 inspections and tests** are made of each and every G-E *Scotch Giant* condensing unit before it is shipped. No wonder, G-E units have proved rugged . . . powerful . . . dependable . . . thrifty.

**The heart of all commercial equipment**—storage cabinets, display cases, beverage coolers, water coolers—is the *condensing unit*. That's why it is so important that your equipment be powered by a General Electric *Scotch Giant* con-

densing unit for efficiency and low cost operation.

No matter what you plan on buying, get the G-E booklet before you decide on anybody's equipment. See your local G-E Distributor or write direct.

GENERAL  ELECTRIC

GENERAL ELECTRIC CO., Div. 370, Bloomfield, N. J.

Yes, I am interested in efficient, low-cost equipment. Without obligation, please send me free booklet on General Electric *Scotch Giant* condensing units.

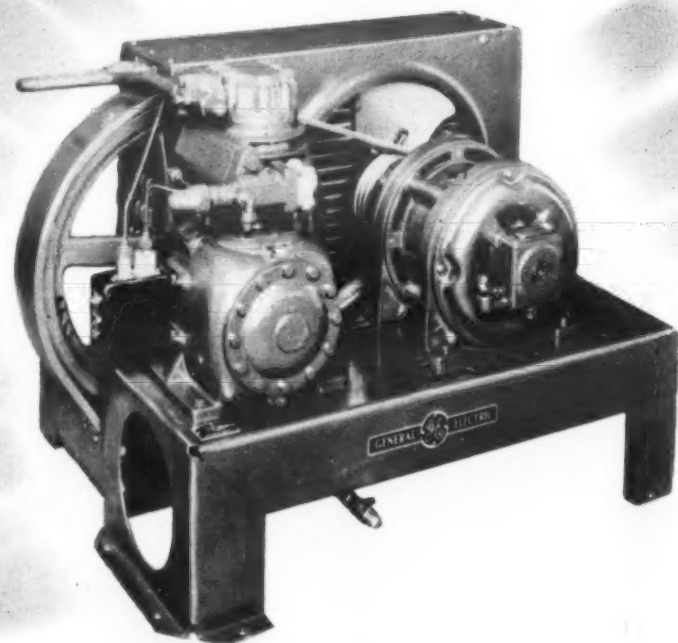
NAME \_\_\_\_\_

FIRM \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_

☐ I am a manufacturer, interested in quantity purchase of G-E *Scotch Giant* condensing units



For every refrigeration need in every business. There are water and air cooled models ranging from 1/4 h. p. to 60 h. p.



## Six Service Business Partners Profit By 'Service Only' Policy

Sales Leads Are Turned over To Its Customers;  
'Swap' Payment Policy Wins Friends

By T. T. Quinn

COLUMBUS, Ohio—Imagine a refrigeration service company with a reputation so sound that its competitors among other service firms and dealerships turn over their "surplus" calls to it—and you have a thumbnail picture of United Refrigeration Service Co., which handles all household servicing for Frigidaire in this territory in addition to doing a wide variety of commercial installation and maintenance work for commercial case dealers, ice cream companies, and markets large and small.

Organized in 1935, United Refrigeration Service is a six-way partnership, every member of which is an experienced service man and knows his way around both household and commercial systems. Partners all draw the same salaries, and share equally in the fortunes of the business, with each one responsible for a different part of the over-all operation.

Oscar B. Reese is president of the organization; W. T. Cannon is vice president; P. A. Overly, secretary-treasurer and office manager; J. R. Griffiths, shop foreman; E. E. Eggleston, air conditioning specialist; and C. K. Wetzel, general servicing work.

### HOW IT GREW

The story of the company's growth from the original six-man partnership to an organization which, in the busy season, employs around 20 persons, is a story of careful, painstaking attention to each individual job to insure customer satisfaction, based on the conviction that it takes only one or two slipshod jobs to undo the prestige built up by a hundred similar calls well-handled.

Another thing which has helped the company grow to its present stature, says Mr. Overly, is a policy to which the company has adhered ever since its organization—that of not competing with its customers in the sale of equipment. The company is a 100% servicing organization; all sales leads are rotated among the companies whose household and commercial work it handles.

While the household side of the servicing business is confined to Frigidaire, for which the company is the authorized agency in this territory, the commercial side is an all-makes operation, covering national users in the area for Frigidaire, and all types of market, ice cream, and other commercial equipment. And it is in the commercial field that the no-sales policy of the company has proved its worth as a business-builder, Mr. Overly says.

### TRADING CUSTOMERS

"The case companies and other commercial manufacturers for whom we do installation and service work know we aren't competing with them," he continues, "and so they don't hesitate to recommend us to their own customers. On our own part, when we come across a service customer who appears to be in the market for new equipment, we tell our 'friends' in the case and cooler business about them. In this way we both benefit, and we can trace a great many of our regular accounts today to the recommendations of commercial dealers for whom we have done work in the past.

"On the other hand, if we were competing with them, we'd never hear about most of these business opportunities."

One of the most valuable goodwill builders United Refrigeration Service ever has hit upon is its annual party for customers, says Mr. Overly. The parties, held in the company's shop, have grown with the years, but the locale has remained the same because the company looks upon this as an important factor in maintaining the "family party" character of the event. As Mr. Overly puts it, "they tramp around on each other's toes pretty much, it's that crowded—but everybody seems to have a good time."

The company's service men—there are some eight others besides the six partners—have a backlog of more than 200 years of combined experience in refrigeration and appliance work, a fact which the company plays strongly in its advertising in the classified section of the Columbus telephone directory.

The men work in pretty well defined "territories" throughout the city, and all operate on a more or less independent basis. Idea is that by concentrating on one area, the service man will get to know pretty well the problems of individual customers in that section, and so will be able to forecast and diagnose any trouble more quickly and effectively.

### YEAR AROUND VOLUME

Also, important in the commercial field, it puts the service man and the customer on that "hello, John; hello, Joe" basis that means so much in keeping service sold.

All service men are on a salary basis, and are employed the year around. To level off the yearly volume, the company has taken on stoker and oil burner servicing which is in its active stages when refrigeration work is at its ebb. Service men furnish their own cars, and are paid on a mileage basis. As a special accommodation this year, old-time members of the service crew were put on a "gas furnished" arrangement for four months, to help them over the between-seasons lull.

### PARTS ARE SECONDARY

Since its emphasis has been so consistently on service, the company hasn't concerned itself with the sale of replacement parts to any extent, Mr. Overly admits. While this might mean considerable extra revenue in some particular instances, he's rather inclined to permit this to remain a strictly secondary part of the business—and stick to super-servicing as the soundest of foundations for future progress. All service men carry ample stocks of the more commonly called-for parts in their cars, and are encouraged to recommend new equipment where that now in use shows sign of becoming a possible future trouble source—but no bonuses or other extra inducements for parts sales of this type are offered.

### BARTERING FOR BILLS

The way the company sees its job, the idea is to keep the customer's equipment operating at the best efficiency possible—and if new parts will do this, to recommend them, but not to make an issue of them at the possible cost of future business.

Being made up of men who formerly operated their own service businesses, and who even now work more or less independently under this unique partnership arrangement, a lot of the company's activities aren't run strictly "by the book." Probably in no respect is the operation more unusual than in its procedure in handling credits.

Where commercial customers run up sizeable accounts and are slow in payment, the company doesn't hesitate to collect on a barter basis—trading its time and materials for food, home appliances, etc. In one case, Mr. Overly recalled, the swap brought hams for the force; in another, which happened around the holiday season, the company traded its bill out in small appliances, which

the service men could give their wives as Christmas presents. By this willingness to "trade out" its bills with slow-pay customers, the company keeps its credit losses at a minimum, Mr. Overly says—and still retains the friendship of the customer, who can't find any objection to settling an account in this manner.

Although most of its business is done in the Columbus territory, the company occasionally gets calls from towns up to 30 or 40 miles away. When several of these calls can be arranged for one time, policy is to split the mileage bill between the stores involved—another goodwill gesture that pays off in extra business.

### HANDLING THE 'SURPLUS'

But probably nothing serves as a stronger indication of the United Refrigeration Service method of doing business than its being called in by competitive firms to handle their "surplus" calls when they're too rushed to take care of them themselves. Being Columbus' biggest servicing organization, the company usually can find some way to crowd these calls into its schedule without slighting its own customers.

"We've tried to be as fair with our competitors as with our customers," says Mr. Overly. "We don't try to 'steal' business from other companies, and they know that they can turn over their calls to us, in emergencies, and be sure that they'll be given just as careful attention as they'd give the jobs themselves."

"They know that our men will do the job right, and that we won't go around knocking the kind of work they've been doing. And they know that, in most cases, they'll still have

## A 'Family Party' For Customers



One of United Refrigeration Service Co.'s best builders of goodwill is its annual party for customers, run off on "family party" lines and held in the company's shop. This scene from the 1941 party shows that refrigeration men really "rub elbows" at the affairs.

their 'priority' to the customer after the emergency is over. On the other hand, they can have no objection if the customer is so satisfied with our servicing that he prefers to stay with us rather than go back to the other dealer."

### Dan McLeod Joins Staff Of Ross Electric

DALLAS, Tex.—Dan McLeod, refrigeration service man and salesman, has joined the staff of Ross Electric Co.

### Rocky Mountain League Wins Service Award

WASHINGTON, D. C.—"For its achievement in stimulating the use of its members' products (electric power and electrical appliances), and its effectiveness in meeting direct competition" the Rocky Mountain Electrical League received a certificate of honorable mention in the American Trade Association Executives' ninth annual competition in 1940.

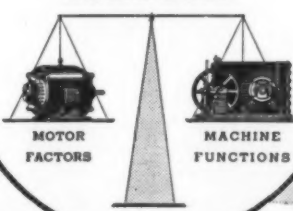
For  
Improved Performance  
That Steps Up Sales  
Specify **CENTURY**  
*Job Selected*  
**MOTORS**

★ Whether you buy, manufacture, sell or install air conditioning, it's to your advantage to be sure that the electric motor drive accurately meets the demands of every job.

The specialized demands of air conditioning, heating, circulating, and fluid pumping present an opportunity for improved performance through the selection of motors designed for these specialized jobs. To meet these conditions, Century provides a wide range of types and sizes of Job Selected Motors from fractional to 600 horsepower.

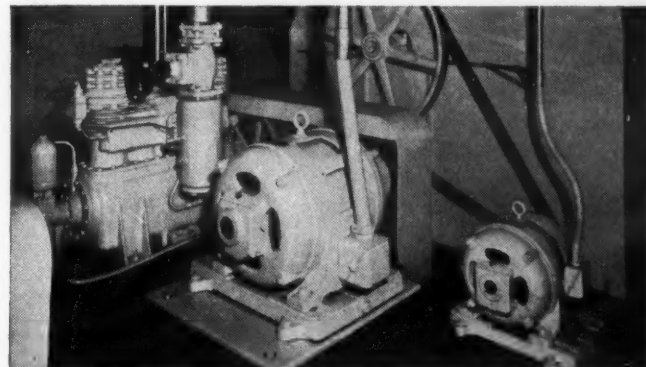
Century Job Selected Motors contribute much to top performance, and satisfactory operation—and the assurance of improved performance means increased sales and profits to you. Call your Century Motor Specialist to find out all the advantages of Century Job Selected Motors.

**CENTURY**  
*Job Selected*  
**MOTORS**

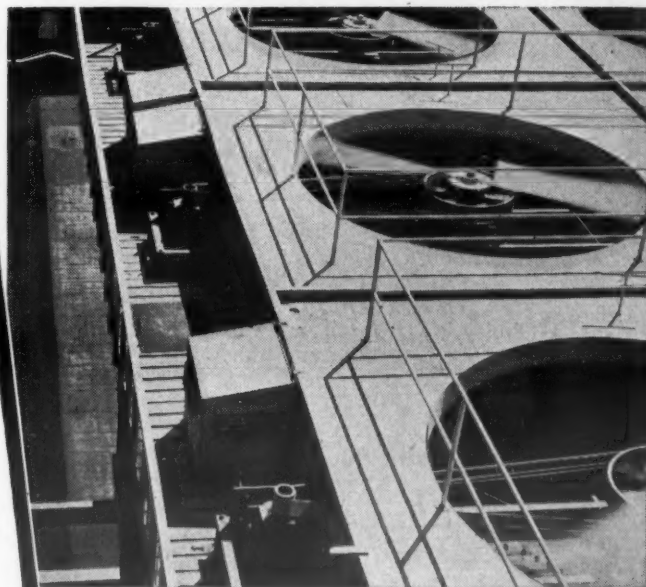


**Century**  
**MOTORS**

One of the Largest Exclusive Motor and Generator Manufacturers in the World



40/20 horsepower SCHM 2-speed motor on a refrigeration compressor. 7 1/2/3.3 horsepower SCNM 2-speed motor on a large fan.



Three of six 18 horsepower ball bearing motors mounted vertical operating fans in a cooling tower on a building roof.



1/4 horsepower, 870/688 R. P. M., two-speed totally enclosed squirrel cage motor on a unit heater. Totally enclosed because the fan draws dust and dirt over the motor.

**CENTURY ELECTRIC CO.**

1806 Pine St. St. Louis, Missouri

Offices and stock points in principal cities.

FROM  
**1/4 to 25 TONS**  
OF REFRIGERATION

Brunner Refrigerating and Air Conditioning equipment comprises air and water cooled condensing units for practically all types of commercial applications up to and including 25 tons of refrigeration. Catalog promptly on request. Brunner Manufacturing Co., Utica, N. Y., U. S. A.

**BRUNNER**

FOR YEARS THE SYMBOL OF QUALITY



## Hard-Hitting Municipal Utility Triples Sales By Specializing

16 Salesmen Concentrate on Refrigerator Sales In Own Territories Under Supervision

OMAHA, Neb.—Sales of refrigerators have tripled 1940 figures for the first three and a half months (207 compared with 70), and the average unit price has been maintained at \$187.50 to prove the effectiveness of the new appliance department setup of the Metropolitan Utilities District of Omaha, municipally owned utility.

Manpower and specialization are the secrets of this marked improvement, according to F. R. McDonald, appliance sales manager. And by "manpower" he doesn't mean necessarily a lot of salesmen, but trained men who work long hours under direct field supervision.

### NO SPECIALIZATION

"Up until April of last year," Mr. McDonald said, "we put our salesmen out on refrigerators, ranges, and hot water heaters and they followed whichever type of prospect looked the best. The men had no field supervision. Then we reorganized our selling system."

"We created a refrigeration sales department wherein the men worked exclusively on refrigerators," he continued. "Sixteen salesmen were divided into two teams of equal size with a supervisor directly in charge of each team. The supervisors, selected entirely on the basis of their sales records, work in the field, canvass for prospects and do follow-up work during the day, and are out every night with the men. When a new salesman is hired, a supervisor stays with him until he is properly broken in."

"The city is divided into 16 districts for refrigerator selling, and each man sticks to his territory," Mr. McDonald further explained. "Tips are interchanged and a master list of prospects is maintained at the store. The men meet at the office at 8:30 a.m. each week day for a sales meeting. The previous day's business is posted on the board, and problems that come up from day to day are discussed, while new merchandising slants are taken up as they become available. The salesmen work until 10 p.m., as we insist upon night work. We also insist upon daily canvassing, and the men average at least 20 calls a day each during the good selling season."

This specialization has benefited range and water heater sales as well as refrigerators, and Mr. McDonald pointed out that "specialization gives higher training, enables the salesman to do a better job on prospects because he can master the one appliance, whereas with a whole line of appliances the salesman is apt to do a half-way selling job on each of the various types."

### CONTESTS EVERY MONTH

Each salesman stays on the floor one day in 17. There is keen rivalry between the two teams and this is an integral part of the selling system. Each month there is a race between

the two teams, and a banquet may be held at the end of a month with the winning team eating steak and the losers eating beans. The losers pay for the full dinner.

Idea back of creating an exclusive refrigerator sales department, according to Mr. McDonald, is that "anything that is used in the home the year around can be sold to the home the year around." That the idea is sound is attested to by the sales record so far this year, and the fact that 1940 sales were more than 100% ahead of 1939.

Salesmen are paid on a commission basis, although they are given a small car allowance. The average monthly check last year was about \$175, ranging from \$140 to \$296. The supervisors get a salary and an over-write of the sales of their respective groups.

### PICKING SALESMEN

Mr. McDonald, who has been with the company nine years and is comparatively young as sales managers go, finds that it pays to pick salesmen with care, but his qualifications are not very hard to meet. "A fellow that has been reasonably successful selling intangibles such as insurance, or in selling vacuum cleaners, has the makings of a good refrigerator salesman," he declared.

Age is no consideration, although Mr. McDonald has found the best age, as shown by the sales record, to be in the late thirties and early forties. Whether a man is married or single does not enter into getting a job with the Omaha concern. Some of the best salesmen have started out as young single fellows, although most of them get married after they have been on the job awhile.

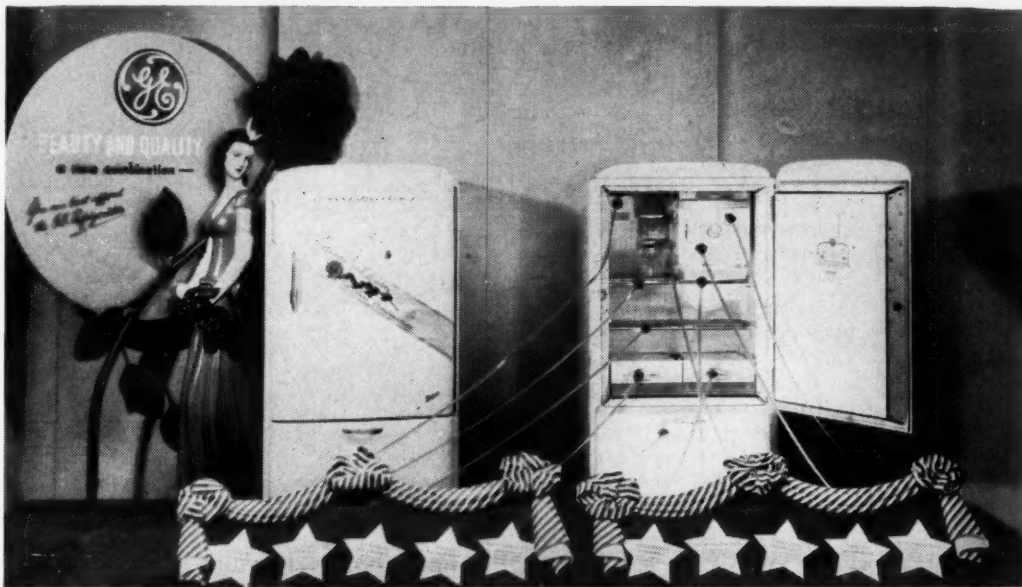
A comparatively recent innovation in the merchandising setup of the Omaha company, and one which has proved highly satisfactory, is a trailer equipped with two big refrigerators which is taken to the homes of prospects for "on the spot" demonstrations during the warmer months. The trailer is alternated between the supervisors daily, and sometimes is used for group canvassing. It has been in use three years.

### FLOOR WELL STOCKED

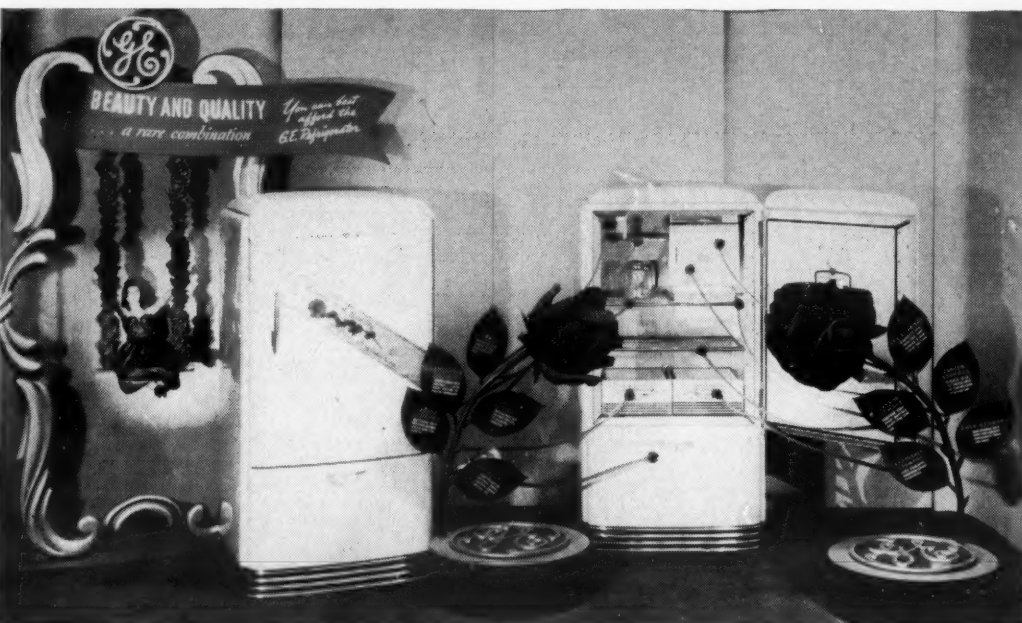
The utilities district has an attractive downtown store and maintains a well stocked sales floor. Newspaper, direct mail, and radio advertising are used consistently, and a select list of prospects is maintained and kept up to date at the office. Factory literature has been found to be most effective, cost and other factors considered, for direct mail advertising. A glass enclosed cut-away household refrigeration unit is kept on the floor for demonstration purposes.

The district uses a local advertising agency to provide newspaper copy, although factory mats are used in making layouts from time to time. Three types of advertisements are being used this year, and the advertising schedule is highly satisfactory, according to Mr. McDonald. Large space advertisements of four columns or more are used to emphasize the salient points and superior features of the refrigerators handled by the

## Starlight and Roses Tell G-E's Refrigerator Story



Available to dealers with display windows in heavy traffic areas are two new displays devised by General Electric Co. The first window shows two refrigerators flanked by a rose several feet high and a lady in an evening dress. Ten flashing stars describe the features, and translucent ribbons single out each feature as it lights up.



Other window display stops traffic with its little lady in a swing. Two big roses set off two refrigerator models. Translucent leaves on the stems of the roses tell the line story, with individual smaller roses identifying each feature as it flashes on.

concern. Page-long one-column advertisements running up and down on the page are used to keep the refrigerator brand name before the public eye, while two-column advertisements with a humorous angle and carrying a cartoon to catch the eye, are run frequently. Terms of as little as \$3.25 a month, including carrying charge, are featured.

### MUST SHOW PROFIT

Mr. McDonald maintains that the fact he sells refrigerators for a municipally owned utility hasn't made it any easier to sell refrigerators. On the other hand, he pointed out, the competition is just that much keener from the private dealers. Moreover, the appliance departments, for which Joseph E. Walsh is general sales manager, have to stand on their own feet, and refrigerator sales have to show a profit at the end of the year, "or else."

## Philco Distributor Builds New Office in Peoria

PEORIA, Ill.—A new, modernly designed building to house its office, warehouse, and display facilities is being constructed by Williams, Inc., distributor in this territory for Philco refrigerators, air conditioners, and radios, at 828 S. Adams St.

Office and display rooms on the first floor will have overall measurements of 56 x 100 feet, while the two-story warehouse space will measure 56 x 170 feet. Front of the building will consist of ceramic glazed tan brick.

Williams, Inc. has held the Philco franchise since 1931, and since 1932 has been located in its present quarters at 800 S. Adams. The firm's sales organization of nine men covers some 500 dealer accounts in 50 Illinois counties. N. B. Williams is president.

## Brown Furniture Adds Frigidaire

KIRKWOOD, Mo.—Brown Furniture & Appliance Co., operated by H. G. and S. D. Brown, has accepted a franchise for the Frigidaire line of major appliances.

Housewives in this suburban section of western St. Louis were invited to the formal opening for a program of movies, ice cream, and musical entertainment.

## 14,000 Attends Lynn Appliance Show

LYNN, Mass.—More than 14,000 employees of the Lynn Works of General Electric Co. and other residents of that city were attracted to a combined appliance display and electric show sponsored from April 21 through 26 by Lynn Gas & Electric Co. in cooperation with General Electric.

Although strictly a local venture so far as execution and participation were concerned, the showing drew some of its inspiration from a similar exposition staged recently in Fort Wayne, Ind., also the home of a major G-E manufacturing plant.

The Lynn display was open both to employees and to the general public, and drew its chief significance from the fact that employees of General Electric's West Lynn and River Works were particularly invited to see the appliances manufactured by their company. Lynn employees of G-E are engaged in making such things as street and highway lighting equipment, meters, motors, and mechanical turbines. Appliance dealers in various lines in Lynn also cooperated.

General Electric's appliances for the home constituted a "Key to Better Living Display," and Nelson J. Darling, manager of the company's Lynn factories, presented a giant key to H. Morris Kelley, head of the utility company, on the opening of the exhibit in the utility's showrooms.

Six major appliance prizes were awarded, one each day, to the holder of a lucky key, as visitors to the showrooms were invited to try their key in a master lock. A number of smaller appliances, including radios, toasters, and clocks, were awarded each day as attendance prizes.

Two shows were given daily, in the afternoon and evening, on a specially constructed stage designed by Moorhead Wright, Jr., of the G-E Boston office. This presentation emphasized the use of scientifically designed lighting equipment in eliminating eye strains caused by poor lighting.

All dealers and distributors participating in the show had booths which were manned by staff members explaining the features of the various appliances. Refrigerators, ranges, water heaters, dishwashers, Disposals, electric sinks, radios, washers and ironers, dryers, cleaners, fans, clocks, and heating devices were on display, as well as air conditioning and heating systems.

## Baltimore Wesco Expands Displays

BALTIMORE — The Baltimore branch of Westinghouse Electric Supply Co. will establish new sales and showrooms for refrigerators and major appliances in what formerly served as the offices of the local branch on the main floor of the building it occupies at Calvert & Lombard Sts. This has been made possible by the four-story addition adjoining its establishment which it has taken over. The offices have been moved into the addition.

Sales and showrooms adjoining the appliance display also will be established for Westinghouse apparatus and equipment, which hitherto has not been possible for lack of space.

The four-story addition provides the local Westinghouse supply branch with 10,000 additional square feet of floor area.

John T. Ridgeway is district manager of the local Westinghouse supply branch, and George Hoefflich, Jr. is appliance sales manager.

## Annex For Appliances Opened By Pfeifer

LITTLE ROCK, Ark.—Annex for home appliances has been opened at 117 W. Sixth St. by Pfeifer Bros. department store here. During the opening week the annex remained open until 9 p.m., souvenirs were given to customers, and special demonstrations were conducted by Miss Elizabeth Mosley, home service director, and Miss Mary Sue James.

The firm handles Frigidaire, Philco, Bendix, Estate, and Easy lines. J. F. Tuohy is sales promotion manager.

**A NEW**

**STANDARD**

The Bush Line includes a wide range of sizes and types. Write for catalog.

BUSH MFG. CO.  
HARTFORD, CONN.  
610 N. OAKLEY BLVD.  
CHICAGO

**Bush**  
Mfg. Co.

COMMERCIAL COOLING UNITS

**Anaconda Copper Refrigeration Tubes**

Easily bent!

THE AMERICAN BRASS CO.  
FRENCH SMALL TUBE BRANCH  
General Offices: Waterbury, Conn.

**Dayton V-BELTS**

Silent, vibrationless, dependable, long-lasting. Powerful grip prevents slippage. A nearby distributor carries a complete stock for appliances and machines.

THE DAYTON RUBBER MFG. CO., DAYTON, OHIO

World's Largest Manufacturer of V-Belts



## Fair and Cooler

By Henry Knowlton

### Air Cooled Bed For Lazy People

Along with a better mouse trap (electrocutes victims), a diaper for puppies, and countless other gadgets, an "air conditioned" bed was among the stellar attractions at the Congress of Inventors of America, held recently in Dallas, Tex. Invented by A. E. Scheffler of Minneapolis, the bed employs no refrigeration, but is nevertheless recommended for year-around use.

The "air conditioning" in the bed consists of a reversible blade fan set in the foot board connected to a duct running down the center of a box-like cover having a valance around its edges. Air may be introduced to the bed, or exhausted, by simply turning a knob on the "dashboard" at the head of the cover. Three air speeds are provided.

The bed may be aired by raising the counter-weighted cover, turning on the "air conditioning" and letting her go. No need to drag the mattress to the back yard.

During winter the occupant is kept warm by an electric strip heater, inserted in the air supply duct, which, it is claimed, can be operated for 6.3 cents a night. Temperature is controlled by a thermostat.

The control panel at the head of the Scheffler bed has features that will appeal to lazy people everywhere. There is a built-in alarm clock within easy reach of the sleeper. Electric outlets have been provided for razors, hair curlers, coffee makers, toasters, and even for an electric pad, should the "conditioning system" fail to provide enough heat.

There are built-in mirrors and a button to summon the maid. But perhaps the most practical feature is a small switch at the right of the "dash" which may be used to turn on two small "running lights" mounted on either side of the bed.

No more getting up at night and stumbling over furniture in the dark.

### Ventilating System In Ordnance Plant Uses Air Tight Ductwork

CHARLESTOWN, Ind.—One of the largest special ventilation systems ever installed in a high explosives plant will go into the 300 buildings comprising the Indiana Ordnance Works now being constructed here. About 80 of the buildings have been completed at the present time.

Part of a system for reclaiming ether and alcohol used in processing the explosives, the ducts must be as completely airtight as possible. All connections are welded to prevent air leaking into the system at joints in the sheet metal system.

To speed up production these welded ducts are being pre-fabricated at Carrier Corp.'s plant in Syracuse, N. Y. Each of the 300 buildings will require fabrication of about 12,000 pounds of metal. Separate buildings are used in the ordnance works to minimize the effect of possible explosions.

### Conditioning Protects Tobacco in Storage

BALTIMORE—First air conditioning installation in the wholesale tobacco industry here will be made by J. F. Obrecht & Co., tobacco jobbing firm, in its new and modernized quarters.

The installation also will handle the basement of the establishment, which is being given over to the storage of confections, another phase of this wholesale firm's activity.

### Lathers Speaks in Toledo

TOLEDO—V. N. Lathers of the research staff of the Barber-Coleman Co. spoke before a recent meeting of The Heating, Ventilating, and Air Conditioning Society of Toledo on the subject of "Air Distribution Through Grilles and Registers as Applied to Both Heating and Cooling."

### Air Cooled Pipe

Meetings of the American Society of Heating and Ventilating Engineers, both local and national, are marked by a total absence of commercialism. No displays of manufacturer's products are permitted, no signs telling the virtues of this or that product, and no specific references to commercial products are made in research reports.

When Prof. O. E. Eastwood of the University of Washington, at Seattle, and a vice president of the national body spoke before a recent meeting of the Detroit chapter, he did an admirable job of "plugging" the Kirsten pipe, designed by a fellow faculty member of the western university.

Explaining that he never smoked a pipe, Prof. Eastwood took a new Kirsten pipe out of his pocket and passed it around for the members to examine. The pipe was designed, Prof. Eastwood explained, on a scientific basis. While most combustion engineers try to get the hottest fire and the least smoke out of a boiler or furnace, Prof. Kirsten designed the pipe on a reverse of this principle, to obtain the least heat and the most smoke from the combustion taking place in the bowl.

Perhaps the invention of the Kirsten pipe marks the birth of a new scientific theory—reversed cycle combustion.

## 'Frozen Sleep' Gets Dramatic Results

(Concluded from Page 1, Column 1)

Four of the patients showed "striking and continuous improvement," and three others were better for a brief period. Two showed no change and one died.

The use of refrigeration as a means of artificial hibernation therapy continues to interest members of the medical profession in several sections of the country. Commonly known as "frozen sleep," the treatment, which consists of lowering the patient's body temperature from 5° to 10° below normal for a number of hours, is neither "frozen" nor "sleep." During treatment the body does not freeze, in fact, precautions are taken to avoid skin burns when the patient is in a semi-conscious condition, and the patient sleeps and wakes in much the same way as a conscious person.

Patients undergoing artificial hibernation therapy treatments are usually able to talk during progress of the treatment, although speech may be slow and thick. When the treatment is over, however, they have no memory of what has occurred.

Drs. L. W. Smith and Temple Fay of Philadelphia first applied cold therapy for the relief of pain in intractable cancer. While encouraging results were reported, particularly in easing pain for hopeless cases, "frozen sleep" cannot be considered as a cure for cancer.

Dr. Max Karl Newman, working at Grace Hospital, Detroit, discovered

that when an advanced cancer patient, who was also a drug addict, was given artificial hibernation therapy, symptoms of drug addiction disappeared following the treatment. This led Dr. Newman to use the treatment on drug addicts who were perfectly healthy, except for their use of narcotics.

Dr. Newman's results have been published in the "Archives," official journal of the Congress of Physical Therapy. Recognizing the dangers inherent in artificial hibernation therapy, Dr. Newman says, "It must be pointed out that a definite hazard exists in carrying out so formidable a procedure. This is especially true when mortality statistics are considered . . . in our experience with 14 cases we noted two deaths during treatment."

According to Dr. Newman, the "most dramatic and hopeful results occur in morphine addiction. One addict with a painful shoulder cancer and two true addicts were treated with general refrigeration. Observations indicate that withdrawal takes place during hibernation as is evidenced by severe muscle tremor and restlessness. The patients awaken . . . well satisfied not to have to continue the drug. The longest period of observation has been six months with no reversion to morphine."

Dr. Newman feels that "frozen sleep" research should be continued, and remarks that "extensive studies in psychiatric institutions are warranted to determine the value of hypothermic states for addiction and psychoses."

The technique used by Dr. Newman in the reduction of body temperatures is the application of a refrigerated sponge rubber blanket. The blanket

has rubber tubes running through it carrying Prestone, cooled by a water cooler mechanism. Temperature of the liquid is held at about 32° until a state of hibernation is induced. After this the blanket is removed and the patient is kept at a reduced body temperature by means of an ordinary room cooler, which holds the room at around 55° F.

In all frozen sleep treatments the nursing cost has been found to be high. Rectal temperatures recorded by a galvanometer must be observed constantly by the nurse in attendance. This means three shifts of nurses, eight hours each. As the treatment lasts from two to four days, the nursing cost may be as high as \$150 per case, and the nurses do not particularly enjoy working in a room kept at 55° F. or lower.

Dr. Newman feels that the technique of artificial hibernation therapy can be improved by the use of an insulated, refrigerated cabinet, somewhat similar in design to the fever therapy cabinets now in use. Equipped with a small air conditioning mechanism and suitable controls, this cabinet could be used to keep the air surrounding the patient at any given temperature during the entire treatment.

Such a cabinet would not only permit the nurses to work in a comfortable room, but the nursing cost could be reduced, as the temperature surrounding the patient would be stabilized at the desired point. Dr. Newman feels that the development of suitable equipment by the refrigeration industry is essential to the progress of artificial hibernation therapy, and that mechanical progress must accompany medical research if all the possibilities in refrigeration therapy are to be explored.

# Do You Want A New COMMERCIAL REFRIGERATION OPPORTUNITY? Then Read What CARRIER Offers You

**Carrier**  
AIR CONDITIONED  
Refrigeration

1. TERRITORIAL PROTECTION
2. PRICES ON WHICH YOU CAN MAKE MONEY
3. NATIONAL ADVERTISING
4. FACTS ON INSTALLATION, APPLICATION INFORMATION AND ENGINEERING BACKED BY OVER 50 YEARS EXPERIENCE

### And Complete Lines of

- CONDENSING UNITS FROM ¼ TO 60 HP.
- COLD DIFFUSERS FROM ¼ TON TO 26 TONS
- EVAPORATIVE CONDENSERS FROM 2 TO OVER 500 TONS
- COMMERCIAL REFRIGERATORS TO 92 CU. FT.
- DISPLAY CASES 4' TO 16' LENGTHS DELICATESSEN, TOP DISPLAY AND DOUBLE DUTY, VEGETABLE AND DAIRY
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- BAKERY, FLORISTS' AND BIOLOGICAL REFRIGERATORS
- DRY BEVERAGE COOLERS
- MILK COOLERS
- WATER COOLERS
- ICE MAKERS

For proof of the fact that there is real money in refrigeration, you have only to look at the record of Carrier Dealers—**"SALES DOUBLED IN LESS THAN TWO YEARS."**

If you handle lines of merchandise with peak seasons, you can fill in the gaps and build a good, all year round, profitable business with Carrier Commercial Refrigeration. Or, if you handle small profit lines that are subject to the heartaches and headaches of price wars, discounts, premiums and other evils that make the dealer work for nothing—you need Carrier Commercial Refrigeration.

Without obligating yourself in any way, learn what Carrier offers you. Write or wire today. Or send coupon.

CARRIER CORPORATION  
"Weather Makers to the World"

DESK E12

SYRACUSE, NEW YORK

Please rush complete information on Carrier Commercial Refrigeration and details on the Franchise available for this territory.

NAME.....

ADDRESS.....

CITY..... STATE.....



# Air Conditioning & REFRIGERATION NEWS

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F. M. COCKRELL, Founder

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## Too Good To Be True

**S**ALES of a million and a half household refrigerators in the first quarter of this year seem too good to be true. Manufacturers, many of whom had anticipated abnormally high business and had built up what they considered exceedingly high inventories, simply can't fill the orders which are being phoned and wired in frantically.

In the last three weeks the editor has visited the sales managers of most of the leading producers, and in every instance he found distributors in the reception rooms, all there to see what they could do to speed deliveries, or get carloads rerouted to them.

### SALES MAY PASS 3,500,000 UNITS

Everybody seems to agree that if sufficient materials are granted the industry, sales will pass the 3,500,000 mark this year—an almost incredible figure to anybody who entered the business a decade or more ago.

Where are they all going? Who is buying them?

As nearly as one can ascertain from spot checks and hurried interviews with run-to-death dealers and distributors, the bulk of today's enormous sales of household refrigerators are going into what was formerly considered the "lower income strata."

Families which earned less than \$800 last year are now finding themselves in the income tax paying class. And they are spending their money.

### THIS WON'T BE A SILK SHIRT ERA

But this time, apparently, it isn't going to be a "silk shirts and champagne era," as was the case during the last war. This time these suddenly lifted (economically) families are buying homes and furnishing them. And first on their list of purchases is the electric refrigerator.

Many such families, it is reported, are buying their refrigerators now, and keeping them in the crates, even before their new homes are built.

They don't want to risk the chance of higher prices or rationing of refrigerators.

Incidentally, it seems quite likely that a rationing program on next year's production—just as has already been agreed to by the automobile manufacturers—may be a possibility. Household refrigerators are surely more essential to the defense program than are automobiles, inasmuch as they conserve the food supply, and maintain health standards of the people.

Nevertheless, rationing is a possibility.

### NOW IS THE TIME TO SELL REPLACEMENTS

That being the case, now should be an ideal time to sell replacement refrigerators. Anybody who has a refrigerator more than five years old should be in the market for a new one, to last him "through the duration."

Service men may become scarce. Service parts may become scarce. Surely, with today's low prices and high performance, no home owner could go wrong by investing in a new electric refrigerator now!

As long as people are cleaning out dealers floors at the present rate, need for replacement salesmanship may not be evident. But it's a real "ace-in-the-hole" for late summer, in order to keep the present terrific sales pace at a continued white heat.

## LETTERS

### REINACH EXPLAINS HIS BUSINESS

A. H. Reinach Co.  
737 N. Highland Ave.  
Los Angeles, Calif.

Editor:

I wish to take this opportunity to thank you for the publicity given in your issue of April 30. However, the information that was obtained was not in line with the type of business that has been formed by the writer.

I believe that our letter to you of May 1 will outline that we plan to act as manufacturers representatives, frequently known as manufacturers agents. We will have a well rounded organization and sufficient sales force to give essential representation in the states of California, Arizona, and Nevada on items in the refrigeration industry.

Therefore, we would appreciate your making a correction of above mentioned announcement in future issue.

Although we are temporarily at the above address as shown on the letterhead, we expect to be in complete new quarters at 1015 W. Second St. Therefore, would appreciate your using this address in any publicity you may care to give us.

A. H. REINACH

### HOW FRIGIDAIRE'S GUARANTEE WORKS

Butler Electric Co.  
114 N. Bay St., Eustis, Fla.

Editor:

Some time ago you sent us a card in one of the issues of AIR CONDITIONING & REFRIGERATION NEWS stating that our subscription had run out. This issue also had an editorial in regard to securing 20% down payment on equipment sold to army officers, etc. Our wholesale salesman from Graybar Electric Co. took this issue to show to one of his dealers and has never returned it. Will you please send me a copy to replace this.

Also enter our subscription for the offer which is checked on enclosed order for which you will find our check enclosed. We wish to thank you for keeping our name on your list even though our subscription had run out.

BUTLER ELECTRIC CO.

P.S. I would like some information if it is possible for you to secure same for me. The local dealer for Frigidaire is telling customers that they have the regular 1-year, 4-year total 5-year policy, and in addition to that now the factory is giving an addition of 4 years guarantee. Is there anything to this and if so, why is it not shown in their advertising? Have you prices and models of their complete line?

## They'll Do It Every Time . . . By Jimmie Hatlo



**Answer:** The March 5 issue is the one you mention as having mislaid, containing a story about a dealer who believes it good practice to ask a substantial down payment from army officers.

On page 1 of the Jan. 15 issue is a news story on the extension of the 1936 Meter-Miser warranty about which you ask, describing how an additional 4-year warranty is available at a cost of \$10. This issue also lists prices and models of Frigidaire's complete line. However, since that time these prices have changed. The Feb. 26 issue of the NEWS reports a \$5 price increase on most Frigidaire models.

### WAR HASN'T STOPPED REFRIGERATION IN SPAIN

Suministros Frigoríficos, Ltda.  
Maria Diaz de Haro, Numeros 48 y 50  
Bilbao, Spain

Editor:

We suppose you will have already received our order through F. Marti of New York, for the renewal of our subscription to your review for two years, and we also beg you to note that we wish to receive a copy of your Directory for 1941, the Spanish edition.

At the same time, we wish to profit of this opportunity to inform you that we always receive with great interest your review and thanks to it, we come to know the latest news which are going on, in the refrigeration industry in the world, because in Spain and in spite of the unfavourable actual circumstances this industry is taking rather a great increase.

Due to the restrictions on the importations there have been established several factories for the manufacture of household refrigerators and commercial units, and some of them are already manufacturing rather acceptable articles, which of course are having a very good reception on the market due to the complete lack of foreign competition.

It must be noted that all the Spanish constructions have taken as example the American patterns, in what it regards the condensing units, withdrawing themselves entirely from what is done on the European Continent. Instead in automatic control switches the European patterns have great acceptance in Spain.

Always at your disposal and wishing you continuous success in your review as heretofore, we are

Sales Manager,  
Suministros Frigoríficos Ltda.

### THINKS NEWS IS ALMOST PERPETUAL

Tigar Refrigeration Co., Inc.  
211-219 Second St., Chelsea, Mass.

Phil Redeker:

Enclosed you will find my check for a new subscription to run for two more years after the expiration of my present account.

First, I do not want to be a new subscriber because if you look up my account, you will find that it is a very old one with your company; and, I still want to feel that I am one of the oldest subscribers that you have, so please don't put me in the new class.

For what I think of your paper—as I have told you and many others, your publication is the only one that can have a subscriber continually pay for subscriptions so far in advance that if he ever will outlive what he has paid for to get your paper, he will have lived in this world longer than he ever intended to.

M. GEORGE TIGAR,  
Treasurer

### EDITORIAL ON WAR WAS A 'KNOCKOUT'

Refrigeration Service, Inc.  
3109 Beverly Blvd., Los Angeles, Calif.

Editor:

Your NEWS editorials are always interesting, but every once in a while you seem to produce a knockout, and such I feel was the one entitled "America Can Hold Its Own," in the April 30 edition.

So many public men in Washington have been spreading fear propaganda during the last year or so in a very evident effort to guide public sentiment, that an independent analysis of the problem of what will follow the war, written by someone who has actually seen some of the conditions first hand, is indeed enlightening.

My only regret is that more "people outside of our own industry can't read this discussion of the subject.

L. P. ROTH

### 'BOOKS ARE VERY NICE; SEND SOME MORE'

791 S. Chambers St., Galesburg, Ill.

Sirs:

Some time ago I ordered a couple books from you and they are very nice and have been of great help to me. I am very well pleased with them. Enclosed you will find a postal money order for which please send me as soon as possible the following books: the Master Service Manual on the Theory of Household Refrigeration Book No. 1. Also please send me the Master Service Manual (C-1) on Commercial Refrigeration by K. M. Newcum.

PAUL J. DEPRIMA

### WITTENMEIER WAS THE INSTALLER

Wittenmeier Machinery Co.  
850 N. Spaulding Ave., Chicago, Ill.

Editor:

May we direct your attention to the list of 1940 Chicago installations, page 15, of April 30, 1941 issue. Both the Harmony Cafeteria, 15 S. Wabash Ave., and the Rialto Theater, 336 S. State St., were equipped by Wittenmeier and not by the contractors listed.

E. F. BERGMANN,  
Vice President

### BUCK PRIVATE NEEDS NEWS FROM OUTSIDE

First Chemical Co. Lab.  
Edgewood Arsenal, Md.

Sirs:

Please send my AIR CONDITIONING & REFRIGERATION NEWS to the above address. I am now a buck private in the Chemical Warfare Service and do need some means of keeping in touch with the outside world.

PRIVATE S. W. GREENBERG

### 'THANKS FOR NOT OMITTING ANY COPIES'

10 Raymond Ave.  
Batavia, N. Y.

Dear Sirs and Friends:

Have just returned from a long visit to the hospital and now wish to announce I'm back and ready to receive the Best Little Newspaper ever printed, enclosed you will please find check for another year of the same—and thanks for not omitting any of the copies.

ROBERT WILKIE



## Taking Pictures of Bar Installations (& Owners) Prospective Owner Has Renters Before Booms Sales of Beer Cooling Equipment Town's 2nd Locker Plant Is Built

### Photos Published In Tavern Journal Arouse Interest

ST. LOUIS—Pictures of bar and tavern installations, featuring not the equipment but bartenders and customers, are fully exploited by James & Co.'s commercial refrigeration manager, Henry Weis, Jr., whose six salesmen last year sold 150 dry-bottle cases and a like number of direct-draw refrigerated systems to increase sales 200%.

The firm specializes in tavern refrigeration, for St. Louis has 14 breweries, including the world's largest, and beer is a vital item in refrigeration.

Prior to using the picture plan, which began in January, 1940, James & Co. had been only moderately successful in beating competition with its slightly higher priced products, even despite the huge "bartender and tavern owner parties" that were held twice a year.

#### PHOTOGRAPHS TAKEN

Under the new selling plan, as soon as equipment is completely installed and tested the firm calls in a photographer connected with the "Tavern Journal," a city publication circulating among all bars and taverns in the city. The installation is photographed, generally from behind the bar, with as many customers as possible, and the owner and his employees showing in the picture. Some shots are made of refrigeration equipment in the basement, but it's the personalities who really count.

Ten prints are usually made of each picture—one going to the tavern owner, one to the salesman, and one to the office. The rest are used for reference and by the five other salesmen who carry a special kit of photographs in their cars.

An average of \$11 is spent for each picture, but this includes a special publicity tieup—running the picture in the tavern journal. When James & Co. has from four to six new installations pictured, all are run in the newspaper, with a short biographical sketch of the owner and interesting facts concerning his business.

#### ADVERTISING TIEUP

The firm also runs a small advertisement on each page of the journal containing a picture of one of its installations, and allows the cost of making the cut of the installation shot to be charged back to company advertising. By waiting until four or five photos accumulate, the firm can show a wide choice of installations through this paper to more than 1,800 prospects in its territory.

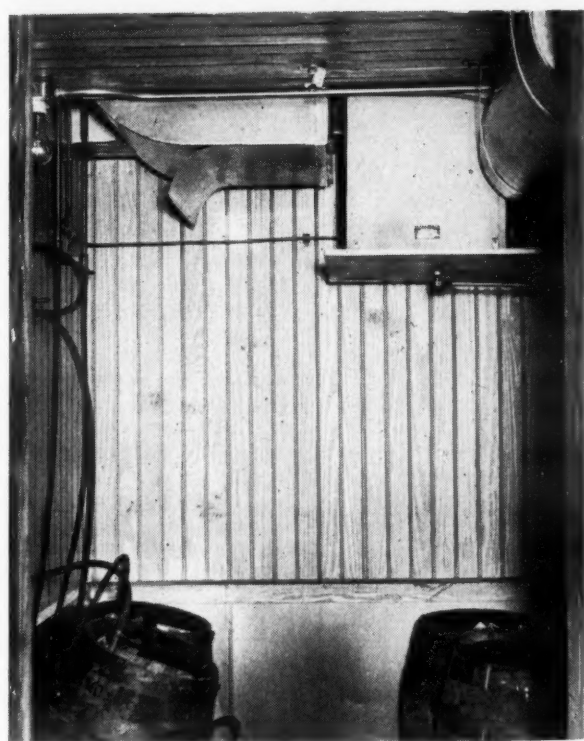
Each salesman carries a folder containing 150 photos, and leaves this with the bar owner while he is surveying the arrangement of the tavern for a possible installation. At least 90% of the tavern keepers find pictures of their own friends in the group, and this natural friendly interest becomes a strong selling point.

Another service that is appreciated by prospects is the metal sign, framed in wood, which James & Co. puts up outside every tavern when an installation has been completed. These signs, costing \$9.50, are lettered in black and white, and read "Joe's Buffet—Now Equipped with G-E Direct-Draw Beer Cooling Equipment." Similar signs are used for bottle boxes.

Final sales point is the fact that James & Co. does all its own service work, and offers tavern owners low-cost contract maintenance service.



Pictures like this aren't very descriptive of the refrigeration equipment, but they make a big hit with the tavern owner, especially when published in a local "Bar Journal." They also serve to whet the interest of proprietors of other establishments who are prospects for modern beer cooling equipment.



Salesmen slip in photographs like this, however, which show the neat manner in which a direct-draw installation is done, and the way in which the beer line is kept cold all the way to the barrel. Each James & Co. salesman has a complete portfolio of photographs.

### Housing Boom Expands Refrigerator Market

WASHINGTON, D. C.—Prospects of continued broadening of the market for electric refrigerators and other home appliances through increased residential construction activity were strengthened by announcement of the Federal Home Loan Bank Board here May 17 that private industry, centering its efforts on construction of homes for defense workers, now is eclipsing all housing production records of the last 12 years and forecasts still greater activity in the coming months.

With a large volume of homes being erected for sale as low as \$2,500 in some sections and under \$3,000 in every section of the country for the first time, and the great majority of structures costing with land less than \$5,000, home ownership is being encouraged among more families of low and moderate income than ever before, according to John H. Fahey, chairman of the Bank Board.

#### Hatfield Named Dealer For Westinghouse

SUMTER, S. C.—A. H. Hatfield has been appointed dealer here for Westinghouse appliance line.

### Four Columbus, Ohio Dealers Expand Retail Stores

COLUMBUS, Ohio—Four appliance dealerships here, two in the downtown section and two in the south side residential districts, are expanding to meet expected demands of improved business.

Kahn Jewelers, 24 N. High St., is taking over the third floor of its building to display appliances. The firm is dealer for Kelvinator, Westinghouse, and Bendix home laundry.

Larger remodeled quarters at 1894 Parsons Ave. have been occupied by Hoermle Appliance Shop, handling G-E refrigerators and Bendix home laundry.

William Hoermle has operated his store in the same neighborhood for 16 years.

Buckeye Radio Lab, 190 E. Whittier St., owned by Charles Dykes, has doubled its floor space to handle an enlarged line consisting of Hot-point appliances.

The second and third floors at 30 N. High St. will be devoted to appliances when Budd & Co. completes its expansion program. The firm is dealer for the complete Crosley line and Leonard refrigerators.

DECATUR, Ill.—Opening a frozen food locker plant in a town of less than 60,000 population which already has a large and complete establishment of this kind might seem like an extremely hazardous undertaking, but not for William Franks. For Mr. Franks made very sure of his ground before he sold out his interest in the American Bakery & Grocery Co. to enter the locker business here.

So in order to determine whether or not the people of Decatur could or would support two locker plants, Mr. Franks, in cooperation with the Delco-Frigidaire Co., inserted a four-column display advertisement in the local newspaper.

After stressing the general advantages of frozen food storage and pointing to the food savings which this process makes possible, the advertisement requested that the public indicate whether or not it

would like such a plant on the east side of town, as opposed to the plant on the west side.

The advertisement made it clear that a minimum of 100 customers would be required to make such a plant possible. Interested persons who desired more detailed information were requested to fill out, clip, and send in a blank from the ad.

In short order a sufficient number of signed coupons were received to justify erection of the new plant. Mr. Franks sold his interest in the bakery and grocery firm to devote his full time to the locker plant project.

On Jan. 11 the new plant, known as East Side Locker Service & Food Mart, was opened with 240 lockers, 175 of which already were rented. Mr. Franks plans installation of 162 additional lockers in the near future. Total cost of the plant was \$10,000.



By Their Yellow Tag Shall Ye Know Them!

SUPERIOR "Soft Seat" DIAPHRAGM PACKLESS VALVES

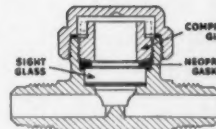
Yep! They really have soft seats—no kiddin'! So easy are they to close that a child could do the job; yet the seats are tough and long-lasting.

Ask your jobber—or write for Catalog

SUPERIOR VALVE & FITTINGS COMPANY  
1509 WEST LIBERTY AVENUE • PITTSBURGH, PENNA.  
EXPORT: 100 VARICK STREET • NEW YORK, N. Y.

## LIQUID INDICATORS that Don't Leak!

● The improved design of our Liquid Indicators is effective assurance against refrigerant leakage around the sight glass. The sight glass is sealed into the forged brass body by a heavy Neoprene gasket which, in turn, is compressed by a packing gland, which forces the pliable gasket along the sides of the glass and produces a perfect seal.

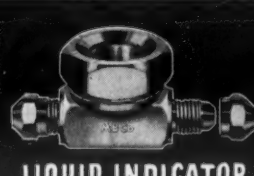


Mueller Brass Co. Liquid Indicators are made in a complete range

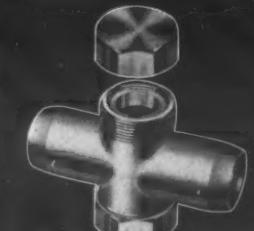
of styles and sizes. The seal cap and open port type may be installed where light conditions are favorable. Where the light is poor, we recommend the use of our double port liquid indicators illustrated here. By flashing a light through one port, the exact condition of the refrigerant may be determined through the other port.

The new design of the compression gland permits the use of standard wrenches for tightening.

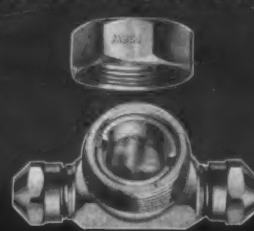
Note: All models of Mueller Brass Co. filters and line strainers may be obtained with female flare connections on one end. This makes it possible to assemble any desired filter to a liquid indicator for installation in the liquid line of the system.



LIQUID INDICATOR



DOUBLE PORT LIQUID INDICATOR



LIQUID INDICATOR WITH SEAL CAP

MUELLER BRASS CO.  
ORDER FROM YOUR JOBBER

Your jobber prefers standard trade marked products. He can rely upon them—so can you.

MUELLER BRASS CO.  
PORT HURON, MICHIGAN

YOU'LL WANT A COPY OF THIS 92 PAGE BOOK!



DU PONT  
METHYL CHLORIDE MANUAL

This new Methyl Chloride Manual contains chemical, physical, physiological and refrigerating data . . . tables of thermo-dynamic properties . . . engineering information . . . handling and servicing methods. Send for your free copy today!

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THE R. & H. CHEMICALS DEPARTMENT  
E. I. DU PONT DE NEMOURS & COMPANY (INC.)  
Wilmington, Delaware  
OR National Ammonia Division  
Frankford P. O. Philadelphia, Pa.



★★★★★★★★



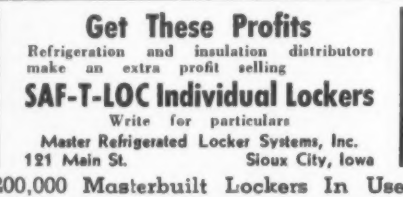
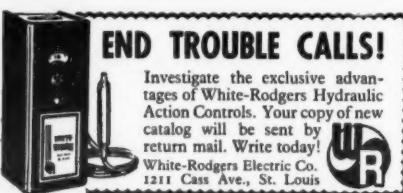
**Mills Condensing Units**  
By Mills Novelty Company  
4100 Fullerton Ave., Chicago, Ill.

★★★★★★★★

**U. S. GOVERNMENT**  
Specification

**Filtrine**

**Cafeteria Coolers**  
Filtrine Mfg. Co., Brooklyn



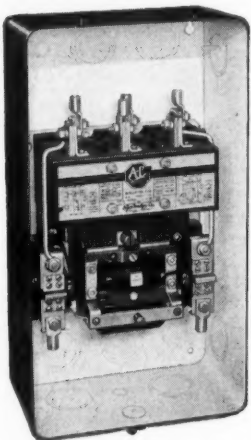
## What's New

Descriptions of some of the brand new items for the refrigeration and air conditioning, and major appliance fields.

### Larger Solenoid Starter Developed

MILWAUKEE — Larger starter with solenoid switch structure has been developed by Allen-Bradley Co. to replace the Bulletin 710, size 4 clapper starter. The new unit, size 4, Bulletin 709, has a maximum rating of 50 hp. at 220 volts and 100 hp. at 440-550-600 volts.

Double break, cadmium silver contacts are totally enclosed in an arc hood, each pole of the switch having its individual arc chamber. Starters can thus be closely grouped with-



out danger of flash-over between switches, the company claims.

Use of the solenoid switch instead of the clapper has greatly reduced the size of the starter, it is said. Generous amount of wiring space is provided. Currents of at least 10 times the maximum horsepower rating are easily interrupted, it is claimed.

The starter is mounted on a self-insulating metal base plate. It is available without enclosure or with a variety of Nema type enclosures, including water-tight and weather-proof, and for corrosive and hazardous gases or hazardous dust.

### Schaefer Announces Frozen Food Cabinet

MINNEAPOLIS — A new line of "Pak-A-Way" all-purpose, self-contained low-temperature cabinets for the storage of frozen foods and ice cream both in the retail store and in the home is being marketed by Schaefer, Inc.

The standard Pak-A-Way unit is available in two sizes, 3 and 6-cu. ft. capacity. Both are top-opening cabinets constructed of heavy gauge rust-proofed steel and finished in white Dulux. Lids are of heavy rubber twin packer type.

Exterior dimensions of the 3-cu. ft. unit are as follows: length, 35 1/4 inches; width, 21 1/4 inches; height, 36 1/2 inches. It is said to hold over 100 pounds of frozen food or more than 20 gallons of packaged ice cream.

Overall length of the 6-cu. ft. model is 40 1/2 inches, width is 30 1/2 inches, and height is the same as the smaller unit. Capacity of this model is claimed to be 250 pounds of frozen food or over 40 gallons of packaged ice cream.

In addition to these two models, Schaefer also is offering a two-temperature self-contained unit for storage of frozen foods or ice cream and also dairy products, soft drinks, or similar goods which must be held at above-freezing temperatures.

Low-temperature compartment of this unit is top opening, like the other two Pak-A-Way models, but

access to the higher temperature storage space is provided through a door in the side of the cabinet. Overall dimensions of this unit are: length, 54 inches; width, 30 1/2 inches; and height, 34 inches.

Low-temperature compartment of this model is said to be large enough to hold four 5-gallon cans of bulk ice cream, or 36 gallons of packaged goods. High-temperature compartment measures 26 inches deep, 21 1/4 inches wide, and 13 inches high.

This two-temperature model also is available in a larger size.

All models in the Pak-A-Way line are equipped with Schaefer hermetic compressor units, with five-year warranty.

### Rubber Stripping Replaces Gaskets

NEW YORK CITY — A rubber stripping especially designed for replacement insulation on refrigerator doors to prevent air leakage has been placed on the market by Chardon Rubber Co. Made of composition rubber, this stripping can easily be applied to the average refrigerator either with cement or tacks. A sufficient supply of this insulation to completely restrip an average box is packed in a flat cardboard carton with a cellophane window.

### New Use Found For New Cleaner



Marko is a very smart dog. Why should he lie on the floor when he can repose on the lap of Olympe Bradna, Warner Bros.' youthful Gallic star? Besides he is getting a good going-over with General Electric's newest tank-type cleaner, and any well-groomed terrier can tell you how important that is along Hollywood Blvd.

### Flashlight Fastens To Worker's Wrist

NEW YORK CITY — Handy for servicemen, installers, and other workmen is the new Rex Ristlite, a flashlight that straps to the wrist like a watch, leaving both hands free for work and yet throwing a beam of light directly on the place where it is needed.

Because it is strapped to the wrist, the new flashlight follows the movements of the hands, but still does not get in the way of either hand, it is claimed. It can also be used off the wrist, and will stand at any angle to furnish a steady light in any direction desired. The device is priced at 98 cents, complete with batteries and bulb.

### SERVEL Interchangeability SOLVES YOUR PARTS PROBLEM

This \$10 kit gives you all the parts you need to render field service on all Servel models from 1/5 to 10 HP. Write for details. Servel, Inc., Electric Refrigeration & Air Conditioning Division, Evansville, Ind.

### Coast Firm Markets Beverage Dispenser

LOS ANGELES — A new coin-operated dry-cooling type bottled beverage dispenser utilizing a revolving drum principle and available in "junior" and "master" sizes has been marketed in this territory by California Kold-Hold Refrigeration Co. The company is representative of Kold-Hold Mfg. Co. of Lansing, Mich. in California, Arizona, and Nevada.

The dispenser is equipped with a locking attachment to prevent removal of more than one bottle at a time. Refrigeration is supplied by a Kelvinator condensing unit.

Capacity of the "junior" vendor is



This girl is testing California Kold-Hold's new beverage cooler by sampling a bottle from the case.

30 bottles, with space for two cases in a reserve pre-cooling compartment. The "master" model has a capacity of 80 bottles, with a pre-cooling compartment which accommodates approximately four cases. Either unit can be arranged to dispense several types of beverages.

Construction is of galvanized steel, with all parts electrically welded. Three inches of wood fiber insulation is used. Finish is high-bake enamel, with color specified by the purchaser. The units are tested to maintain an average temperature of 34° F.

The smaller model is 27 inches wide, 41 inches long, and 35 1/2 inches high; the master unit is 30 inches wide, 84 inches long, and 35 1/2 inches high.

### Explosion-Proof Water Coolers Announced

EAST PITTSBURGH, Pa. — Three explosion-proof water coolers for use in oil refineries, paint factories, and other hazardous locations have been announced by Westinghouse Electric & Mfg. Co. Cycling control mechanism and overload protective devices are completely enclosed to prevent arcing which might ignite explosive mixtures.

Coolers have stainless steel tops, heavy steel bodies, and hermetic condensing units. Capacities are 8.2, 9.8, and 18.9 gallons an hour of water cooled from 80° to 50° F. Motor and compressor are water cooled by a counter-flow double-tube condenser wrapped around motor shell. Flow of condensing water is automatically regulated when unit is running and stops when unit is idle.



Efficient, sturdy and economical. Provides safer handling and thorough protection of refrigerators. Pad and harness are separate units and both adjustable to practically all styles and sizes of cabinets.

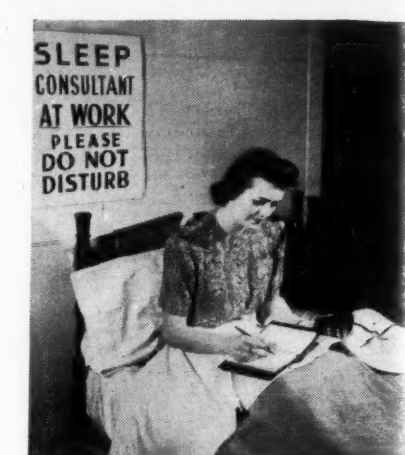
Adjustable Pad \$10.00 each. Adjustable Harness \$6.50 each f.o.b. Chicago. Lettering on pad at only \$1.00 per order extra.

Write for latest folder and prices on pads for refrigerators, washers, ironers, ranges, radios, etc.

BEARSE MANUFACTURING COMPANY

3815-3825 Carroll Street, Chicago, Illinois

### Nice Work If You Can Get It



Martha Alden, Pequot Mills' sleep consultant, makes studies and gives advice not only on how to get to sleep but how to make the most of it. In the picture she is taking notes on the General Electric automatic blanket. In her left hand is the thermostatic control which maintains an even temperature in the blanket.

### New M-H Time Control Shuts Off Current

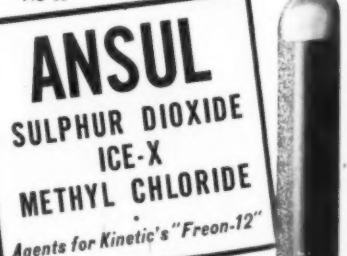
MINNEAPOLIS — A new time controller for automatically controlling the operating period of attic fans, store lighting, refrigeration systems, and other mechanical equipment has been made available by Minneapolis-Honeywell Regulator Co. The device may be set for any period of time from 1/2 to 11 hours by adjusting a knob on the front of the instrument. When this period has elapsed the switch will automatically open and break the circuit to the electrical load.

To open the circuit at any time, if this should be necessary, it is only necessary to turn the knob in the opposite direction—back to zero. Designed for flush mounting, the controller is no more conspicuous than an ordinary wall switch.

## ANSUL RESEARCH

is the clue to Ansul Quality. Back of your satisfaction with Ansul products... back of our 25 years of helpful service to the industry stand the men in the Ansul Research Laboratories... making sure, day after day that Ansul quality never varies, that Ansul gases are what they say they are... Clean, Pure, Dry

ANSUL CHEMICAL COMPANY  
MARINETTE WISCONSIN  
AC-39



THERE IS AN ANSUL JOBBER NEAR YOU



## Working on Locker Plant Job? Here's Some Things To Watch

**Standard Floor Construction; Drainage; Correct  
Insulation Seal; Designing For Expansion**

AUSTIN, Tex.—Observations on existing locker plants in Texas and specific recommendations on plant design and construction for the benefit of prospective builders were combined in a paper delivered by J. W. Stockham of Texas Power & Light Co. before the University of Texas Food Preservation Conference.

Said Mr. Stockham:

"When selecting a location it is important to consult with the electric, gas, water, and sewer representatives in order to determine whether it is satisfactory for all desired services, and especially rapid drainage after a rain storm. Such utility services should enter at the side or rear of the building.

### SELECT LOT CAREFULLY

"Erecting may cost \$1,000 more if a lot is selected on ground that requires foundations to be placed as much as 12 feet deep. The grade of side walk, driveway, and gutter should be ample to wash off all accumulation of trash.

"The buildings usually consist of brick, tile, stone, or concrete or a combination of these. The cost of such a building for a 400 locker plant, complete with insulation, plumbing, wiring, and gas connections, is about \$8,500 to \$9,000.

"The building material usually depends on what type will satisfy the community. If the building belongs to the community, galvanized iron may be satisfactory for the first few years, even though it has no eye appeal.

"Standard floor construction consists of an 8 inch slab on which is placed the insulation. The wearing floor consist of 3 or 4 inches of concrete. In the locker room this should be reinforced, as it may have to support over 400 pounds per square foot when lockers are fully loaded.

### DRAINAGE IMPORTANT

"Floor of the chill, aging, curing, and compressor rooms should have drains of not less than 4 inch sewer pipe, with a trash screen over each opening.

"In order to make an unbroken seal of insulation on each room, the ceiling joists are supported by posts footing on the floor below. If coil lead is very heavy, use I beams with H columns supported on floor plates which in turn are supported on 3 to 4 inches of vibracork. The insulation is laid on top of the ceiling, the roofing then being laid upon the insulation.

"One recently designed locker plant has a locker room just large enough for the present business. They have planned for future expansion by putting corkboard in the floor of the adjoining room for additional locker room space.

### TYPICAL DIMENSIONS

"Room dimensions in one typical locker plant are as follows: locker room, 31 feet 10 inches x 16 feet 8 inches, containing 1,440 linear feet of 1 1/4 inch pipe coils; freezer, 5 x 8 feet, with 402 feet of special type plain 1 1/4 inch coil with fan.

"Chill room measures 6 x 15 feet, and has 550 feet of 1 1/4 inch pipe coils; aging room, 15 x 15 feet, with 550 feet of 1 1/4 inch pipe coils; cured pork room, 9 x 15 feet, with 450 feet of 1 1/4 inch pipe coils; general storage room 10 x 15 feet with 450 feet of 1 1/4 inch pipe coils.

"Height from floor to top of meat rails in chill and aging room is 8 feet 2 inches. Ceiling is 11 feet high in front and about 10 feet 5 inches in rear. This varies according to pitch of roof and distance from the front to point where measurement is taken.

"The ceiling is also the roof, ceiling joists being supported by 4 by 6 inch posts just inside of, and flush with, the insulation. Every fifth ceiling joist goes through the cork board into the outside brick wall, and is anchored to it. Coils are supported by hangers from the ceiling joists.

"The low temperature freezer room and locker room have flooded type coils with float valves and surge tank headers, the suction line having

solenoid cut-off valves operated by room thermostats. Chill, aging, cured pork, and general storage rooms have ceiling coils controlled by thermostatic expansion valves and solenoid on the suction line with thermostatic control.

"One liquid line runs the length of the building and feeds all room coils. There are two suction lines, one for freezer and locker rooms and one for higher temperature rooms. There are ammonia compressors—each 4 by 4 inches—one for the freezer and locker rooms driven by a 7 1/2-hp. motor at 280 r.p.m., and one for the chill, aging, and curing rooms, driven by a 10-hp. motor at 280 r.p.m.

"Both compressors are controlled by high and low pressure 'cut offs,' in series with the rooms. Any room starts a compressor, whereas all rooms have to be cut off before any compressor in series with them cuts down. The condenser circulating pump is controlled by switches such that if water is not pumping the compressors will not start.

### CONDENSER SURFACE

"Condenser surface is 24 sq. ft. per ton, and the circulating pump has over 6 g.p.m. per ton of refrigeration capacity. Midsummer head pressure observed was 146 pounds gauge during the afternoon; in October it was 135 pounds gauge. Suction pressure is 3 to 5 pounds gauge on the low temperature compressor, and 34 pounds gauge on the high temperature compressor, decreasing, of course, as the solenoid valves in each room close.

"Several plants have what might be called air conditioned locker rooms, taking the cold air from the freezer room and distributing it through slotted ducts the length of the room. Return air goes back to the freezer through a slot in the freezer wall. This eliminates supporting coils and defrosting difficulties, and results in a complete distribution of the air.

## St. Louis Area To Have 11 More Locker Plants

ST. LOUIS—Eleven new locker plants are slated to be completed soon in this section of Missouri, according to Jack Tenge, St. Louis commercial refrigeration manager for Frigidaire.

Included among these plants, according to Mr. Tenge, will be a 300-locker installation in Maplewood for the convenience of county residents who live considerable distance from city markets, a 100-locker plant to be installed in connection with a super-market on Manchester road near St. Louis, and a 200-locker plant at Webster Groves, a St. Louis suburb.

All of the 11 plants planned will be operated in conjunction with some other business—eight with meat markets, two with dairies, and one with an ice plant. Total cost of these plants is estimated at more than \$175,000.

## New Parts 'Dramatized' By Kelvinator Branch

DALLAS, Tex.—To attract attention of service men to new items in its line of replacement parts, the local branch of Kelvinator dramatizes them during the course of service meetings which the branch holds frequently.

The devices to be shown and discussed are arrayed on a scroll-like cloth. Concealed from the group, a "Kelvinator Crier," a take-off of radio's "Town Crier," speaks to the service men about the new products. As he discusses each device, he unrolls the cloth by means of a cord attached to the scroll catch and running to the place of concealment.

Another promotional device is a "grab-bag." A wide variety of parts is placed in boxes. The parts are valued from \$2 upwards, but are offered for sale at 50 cents each.

## Penn To Take Control Show To Eight Cities In the Far West

GOSHEN, Ind.—Penn Electric Switch Co.'s series of educational demonstrations on refrigeration controls, inaugurated in February and shown to refrigeration, air conditioning, and service engineers in 45 cities in the United States and Canada, has been extended to include eight Rocky Mountain and Pacific Coast cities, reports R. H. Luscombe, Penn sales manager.

Time and place of the western showings has been arranged as follows: Denver, Cosmopolitan hotel, May 26; Salt Lake City, Newhouse hotel, May 28; Seattle, Washington hotel, June 3; Portland, Ore., Multnomah hotel, June 5; San Francisco, Sir Francis Drake hotel, June 11; Long Beach, Calif., Silverado Club House, June 23; Los Angeles, Embassy Hall, June 25; and San Diego, 640 Tenth Ave., June 27.

All meetings are scheduled for 8 p.m. and will be held in cooperation with jobbers handling Penn equipment as well as with A.S.R.E. and R.S.E.S. chapters in the various cities. The demonstration, staged with the use of a 35 mm. slide film, giant operating models of controls, and a schematic system hook-up, covers the basic principles of automatic control operation as well as selection, installation, and adjustment of control equipment.

All persons interested in refrigeration and air conditioning control problems are invited to attend the meetings in their respective vicinities, Mr. Luscombe said.

## The Service Man's Notebook

By Henry Kronke

Mr. Kronke, a service engineer in New York City, compiles useful, handy data for use in his work as he finds a repeated need for certain kinds of information. The editors suggest that service and installation engineer readers of the NEWS cut these tables out for their own notebooks.

### CONDENSING UNITS REQUIRED FOR SODA FOUNTAINS

	Maximum Air, 85° F. Maximum Water, 80° F. Air Cooled Hp.	Maximum Air, 100° F. Maximum Water, 90° F. Air Cooled Hp.
6-Foot Back Bar Only .....	1/4	1/4
4-Foot Sandwich Unit (Baine Marie) .....	1/4	1/4
6-Foot Back Bar and 4-Foot Baine Marie ..	1/2	1/2
50 Gallons Ice Cream and Jar Enclosure....	1/2	1/2
50 Gallons Ice Cream, Jars, Baine Marie or Back Bar .....	1/2	3/4
50 Gallons Ice Cream, Jars, Baine Marie and Back Bar .....	3/4	1
30 Gallons Ice Cream, Jars, and 5 Gallons per Hour of Water.....	3/4	3/4
50 Gallons Ice Cream, Jars, and 5 Gallons per Hour of Water.....	3/4	1
50 Gallons Ice Cream, Jars, Baine Marie, and 5 Gallons per Hour of Water.....	1	1

### SALAD PANS

The heat leak into salad pans is best calculated per square foot of top surface. Where no ice is frozen on the coils the heat leak is 1.5 B.t.u., and where ice is frozen on the coils it is 1.8 B.t.u. per hour per square foot top surface per °F. temperature difference between room and water bath.

## Simplified to Help You Sell More!



## The KELVINATOR COMMERCIAL LINE

Everyone knows the remarkable success that Kelvinator's policies have achieved in household refrigeration. Now these same successful policies are being applied to the commercial refrigeration field.

Kelvinator simplifies the dealer's selling and inventory problems by eliminating small volume models . . . by concentrating on equipment most easily sold.

The Kelvinator commercial line includes a complete range of air and water cooled con-

densing units, reach-in refrigerators, beverage coolers, and frosted food cabinets—ready-to-run equipment that is designed, built and priced for quick selling. In addition, Kelvinator offers a full line of dependable refrigeration parts and supplies.

Throughout the country, dealers and independent service men handling Kelvinator commercial equipment are reporting big sales increases and mounting profits. Investigate the opportunities that Kelvinator offers YOU!

Get More—

Get **KELVINATOR**

Kelvinator Commercial, Parts and Service Division,  
Nash-Kelvinator Corporation, Detroit, Michigan.

Gentlemen: I want to know more about Kelvinator's  
☐ Commercial Line. ☐ Refrigeration Parts and  
Supplies.

Name.....

Firm Name.....

Address.....

City..... State.....

K-121



## Operating and Service Methods For Dry-Expansion Counter Freezers

By Arch Black and Dean C. Seitz

**Editor's Note:** This is one of a series of articles on the servicing of counter-type ice cream freezers, which have been appearing in the issues of AIR CONDITIONING & REFRIGERATION NEWS in the past few months.

This is the fourth instalment of the section giving information on Mills counter freezers.

### General Service

From that which has been previously described in earlier articles, the service engineer should have no difficulty in servicing the Mills freezers. There may be a few peculiarities that will apply to the

specific model of the manufacturer's ice cream freezer, but it is not thought necessary to relate complaints and remedies as they would apply specifically to the Mills ice cream counter freezer cabinet.

Inasmuch, however, as no details have been given nor mention made of hardening cabinets with blower coils such as we have in the Mills cabinet, certain information is being given which it is hoped will be all that will be necessary for the service engineer to know, together with that knowledge he already has from experience and that given in previous articles.

### How To Set Master Cabinet Controls

#### 1. Rapid Hardening

A—Push timer handle down to position No. 2.

B—Turn timer dial normally to seven hours (5 plus 2; one complete turn of the clock dial plus two spaces more; arrow indicates proper direction to turn dial).

Turn timer handle to position No. 1. Leave blower shutters fully open.

#### 2. Dispensing with Shutters Wide Open

A—Set cold control pointer on control panel to give desired temperature as indicated on compartment temperature dial. The usual setting will be between 13° and 15° F., depending on what type ice cream is to be dispensed. Variations, of course, would include bulk ice cream, fruit-flavored ice cream, packaged ice cream, etc.

For different temperatures in individual compartments, regulate blower shutters, restricting the blower vent for higher temperatures.

When the entire cabinet is used for dispensing but two or more temperatures are to be maintained, use the compartment next to the mix compartment for the lower temperature desired and throttle the shutters.

#### 3. For Dispensing and Rapid Hardening at One Time

A—Set timer switch as has been described for rapid hardening. The compartment used for hardening should be the one farthest away from the mix compartment end of cabinet.

B—Open blower shutters fully in compartment used for hardening and regulate the blower shutters in compartment for dispensing until desired temperature is obtained.

#### 4. For Rapid Hardening, Dispensing Ice Cream, and Dispensing Frosted Malted at the Same Time

A—Thermostatic bulb on the cold control must be transferred to the center compartment. **Note:** This would be a service operation and not an operator's.

Frosted malteds must be dispensed from compartment next to mix storage compartment. Leave

the end compartment farthest from the mix storage compartment for hardening ice cream.

B—Set timer for rapid hardening.

C—Open the blower shutter fully in compartment used for hardening.

D—Throttle the shutters in the compartments used for frosted malteds and dispensing ice cream till desired temperature is obtained.

#### 5. Mix Compartment

Control the temperature in the mix compartment by throttling the shutters until desired temperature is reached, as indicated by the temperature dial.

#### 6. Frosted Malted Storage in Mix Compartment

Mills offers as an accessory what is known as a "can collar" to suspend the can and to prevent loss of refrigeration. With the use of this the mix compartment can be used for storing frosted malteds. This is an optional accessory, but the mix cannot be stored at the same time because of the lower temperature required for frosted malteds. Adjust the shutter until temperature dial indicates the proper temperature.

#### 7. Defrosting

The defrosting procedure must be thoroughly explained to the operator. If the cabinet is not defrosted periodically, too much frost will build up on the coil and long hardening periods are liable to result, causing an unnecessary service call.

Defrost the cabinet once a week during summer months and once every two weeks or three weeks during the winter months. To do so it is only necessary to set the defrosting switch to "Defrost" position.

A—Push timer handle down to position No. 2.

B—Remove top, and inner lids from compartment to be defrosted.

C—Open the shutters.

After defrosting, return defrosting switch to normal position and timer switch to position No. 1.

The frost is removed by circulating air at room temperature over the coils and melting the frost. A glance over the coils will easily determine when this operation is completed. When completed, it is well to be sure that the coils are free from frost, and then wipe off the moisture from the bottom of the cabinet created from the melted frost. At the same time wipe off the side walls and breaker strips.

The moisture should be wiped out completely so that the circulation of air will not reabsorb moisture and cause unnecessary frosting. The cabinet may be defrosted one compartment at a time by proceeding as above mentioned and closing the shutters. When the compartment has been defrosted and wiped dry replace inner and outer lids and return defrosting switch to normal position and timer switch to position No. 1. Allow compartment to cool down to dispensing temperature as indicated by temperature dial on outside of cabinet with shutters wide open.

Tap shutters to break loose any ice that may have formed between shutter and panel, and operate shutter up and down several times. Then transfer ice cream from another compartment to compartment just defrosted, and defrost that compartment as has been done with the preceding one, etc., until all compartments have been defrosted. If it is more convenient, one compartment may be defrosted each day until all compartments have been defrosted, and continue this cycle each week.

## Drastic Cuts Forecast In Production of Appliances

NEW YORK CITY — Material shortages will force many electrical appliances to reduce their production estimates to an even greater degree than the automotive industry's voluntary cut of 20% in production for the 1942 model year, according to prediction of industry spokesmen in a survey made by the "New York Times."

"Refrigerator output is still holding up well, but substitutions are being steadily made," the "Times" reported. "Chief worry is that sheet steel will be rationed through priorities later in the year."

"Placing of the appliance manufacturers in the B-7 classification for aluminum on most of their products assures them of only limited quantities of the material after the more pressing defense and civilian needs are covered, makers said. As a result, instead of a 20% cut, some individual manufacturers will be able to produce only 25% of what they could sell this year, based on orders to date."

"For instance, makers of electrical mixers expect to get approximately 50% of the aluminum they used in 1940. But on the basis of current orders, this supply will be sufficient for only 25% of the scheduled production."

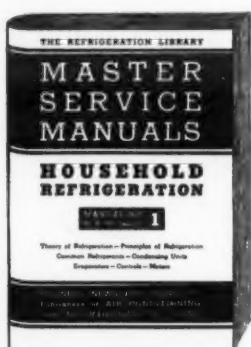
"Electric irons will also be badly hit. They use aluminum bases, and production this year will probably not come within 50% of the estimated output. One large company has a backlog of 36,000 irons on hand, while another is worried over its ability to produce 5,000 units for a special promotion."

"Tank type cleaners, some of which formerly used as much as 3 pounds of aluminum, are now being offered with casings of sprayed steel. Similar substitutions are being made in floor type models."

**Kerotest Manufacturing Co.**  
Pittsburgh, Pa.

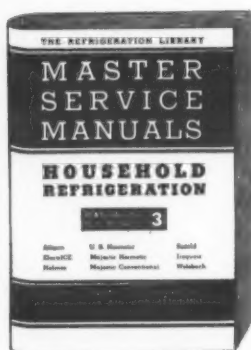
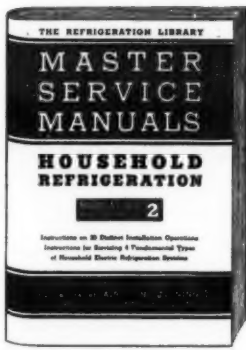
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This household refrigeration series of The Master Service Manuals by K. M. Newcum, as well as all other books of the Refrigeration Library, are available to you on a money-back guarantee. If you are not satisfied, you may return the books within ten days and your money will be refunded.



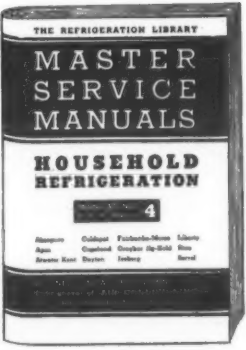
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### Western Auto Stores Adds Kelvinator

CLIFTON FORGE, Va.—Local unit of the Western Auto Stores chain has taken on the Kelvinator line of appliances.

### Kimbrell's Takes Crosley

RALEIGH, N. C.—Kimbrell's Inc., local furniture dealer, has been granted the Crosley franchise in this territory.

**Anaconda Copper Refrigeration Tubes**  
Coils unroll surprisingly straight

**THE AMERICAN BRASS CO.**  
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ONE OF oldest and largest manufacturers of commercial refrigeration machines in the country has opportunity for young unmarried man to contact dealers in Atlantic States. Commercial refrigeration experience, automobile, and willingness to travel continually are essential. Straight salary. Our own men know of this ad. Replies held confidential. Reply Box 1333, Air Conditioning & Refrigeration News.

EXPERIENCED District Manager for several metropolitan sales areas to sell REOL Quick Frozen Food Display Cabinets to wholesale distributors. Opportunity for large commissions. Full details must be given. THE REOL COMPANY, Hearst Tower, Baltimore.

### FRANCHISES AVAILABLE

GENERAL Refrigerator Company is announcing the new 1941 line. General Display Cases, Reach-In Cabinets, Walk-In Coolers and Beer Pre-Coolers. For almost half a century we are manufacturers of the highest quality commercial refrigerators. Compare with other higher priced lines. Write in for prices and discounts on the biggest money making line in the country. GENERAL REFRIGERATOR CO., 5th & Bainbridge Sts., Philadelphia, Pa.

SELL refrigerator display cases, walk-in coolers, reach-in refrigerators, refrigerating units, to meat markets, grocers, taverns, etc. Financing arrangements to help sell. Write for full information or see EHRICH REFRIGERATOR MFG. CO., St. Joseph, Mo. Dept. A.

### BUSINESS OPPORTUNITIES

COMMERCIAL refrigerator manufacturing business, old, established in large eastern city. Manufacturing walk-in coolers, reach-in refrigerators, double duty cases, beer pre-coolers, etc. Fully equipped woodwork and metal machinery now in operation. Plant and building about 30,000 ft., can be purchased very reasonably. Cash required \$15,000 to \$20,000. Reply Box No. 1332, Air Conditioning & Refrigeration News.

### EQUIPMENT WANTED

WANTED—500 General Electric monitor top refrigerators, DR-1 and DR-2. Will pay top prices for them. MACKLAM REFRIGERATOR SALES & SERVICE CORP., 220-222 W. Huron St., Chicago, Ill.

### EQUIPMENT FOR SALE

BUYERS of surplus stocks and inventories of commercial and domestic refrigeration and air conditioning equipment—new, rebuilt, used, condensing units, compressors, all sizes motors, controls, valves, heat transfer equipment, and all types of parts. Please send full details and particulars to R & R REFRIGERATION & EQUIPMENT CO., 508 Morris Ave., Bronx, N. Y.

½ H.P., D.C. Carrier Condensing Units, air-cooled (12), complete in every detail. Twelve units, same as above, less motors. 25 H.P. complete air conditioning system, just removed from the Finnish Pavilion at the World's Fair, includes all necessary parts for complete installation. Box 1330, Air Conditioning & Refrigeration News.

HERE IT IS! Three catalogs in one. General Electric, Westinghouse, Majestic, Grunow Hermetic Units and compressors. Frigidaire, Kelvinator, Norge, Crosley, etc., compressors, evaporators, and parts. Complete line refrigeration parts, tools, and supplies. Write for your copy on your letterhead. SERVICE PARTS CO., 1101-3 N. 24th Ave., Melrose Park, Ill.

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"AS IS" boxes and surplus stock of all kinds. Grunows \$12.00 each. Meter Miser \$9.00 each. Complete Westinghouse 1 ton low-sides ready to install \$32.50 each. ½ H. P. Fedders condensers \$2.25 each. ¼" Mueller strainers, complete with two ½" to ¾" flare nuts, in lots of five, 60¢ each. Shrouds for DR-1, DR-2 and DR-3 G-E Monitor Tops, entire lot of 100 available 60¢ each. Compressors and motors of all types. Write us your requirements. ASSOCIATED REFRIGERATOR PLANT, INC., 3028 W. Hunting Park Ave., Philadelphia, Pa.

CONTROL REPAIR Service. Domestic controls reconditioned equal to new at a small cost. All work guaranteed for one year. Prices upon request. UNITED SPEEDOMETER REPAIR CO., INC., 342 West 70th Street, New York City.

CONTROL REPAIR Service. Your controls repaired by expert mechanics, with special precision equipment. Supervised by graduate engineers. We stress perfection and dependability before price. One year guarantee on domestic controls. Any bellows operated device repaired. HALELECTRIC LABORATORY, 1793 Lakeview Road, Cleveland, Ohio.

## 'X-Ray' Sheets In New A-P Catalog Take Expansion Valve 'Apart' To Show Works

MILWAUKEE—Dealers and service engineers and other members of the refrigeration trade who purchase products made by Automatic Products Corp. are now getting a complete visual presentation of the A-P products, installation recommendations, and pricing plans, through the new confidential catalog just issued by the company for use by salesmen of its products.

Imprinted on the cover is the name of the refrigeration supply wholesaler's sales or counterman, or the A-P representative, to whom the catalog has been given.

Probably the most unusual feature of the catalog is the use of printed transparency sheets (known as the "X-Ray sales method") to trace the

pains taken in the construction of A-P products.

As the reader turns the pages a popular model expansion valve is disassembled, part by part, to acquaint the reader with its principle of operation and the care taken in engineering and manufacturing processes.

Following this comes a section of catalog sheets on expansion valves, complete with capacities, characteristics, etc. Then there is a section on "The Application, Installation, and Servicing of Expansion Valves."

Other products such as suction pressure valves, water regulating valves, and the "Trap-It," are treated in similar fashion. Then at the very back are price sheets and data on the replacement plan.

## New Synthetic Rubber Plant Steps Up Thiokol Production For Defense Needs



Milling Thiokol before compounding it with other materials.

MIDLAND, Mich.—Production of Thiokol, pioneer synthetic oil-proof rubber, at the rate of 150,000 pounds monthly has been started in the new plant constructed here by Thiokol Corp. and the Dow Chemical Co.

Combined production of the new unit and the plant established here in 1938 totals in excess of 330,000 pounds a month. Yearly output of some 6,000,000 pounds is seen by officials from these and other plants now operating or planned.

The new plant, now working 24 hours a day seven days a week, was in operation 105 days after ground was broken. Thiokol and Dow are cooperating in manufacture of this

synthetic rubber because the necessary raw materials, such as salt, gas, and sulphur, are readily accessible to Dow's plant here.

Everything needed to make Thiokol can be easily obtained in the United States, company heads declared, and thus could minimize the effects of a possible blockade of the Far East and its natural rubber supplies.

First introduced in 1929, Thiokol has had a constantly increasing number of commercial applications. It is used in gasoline service station hose, fuel oil hose, seals and gaskets for many types of industrial equipment, automotive parts, printing press rollers, and other products.

## Westinghouse Wages Rise 11% In May

EAST PITTSBURGH, Pa.—Wages and salaries of employees of Westinghouse Electric & Mfg. Co. will be adjusted upward 11% during May, in accordance with the wage and salary plan under which the compensation is established each month in proportion to the average earnings of the preceding three months. The bonus in April this year was 10%.

April net profit was \$2,277,740, compared with \$2,514,128 in April, 1940, and \$2,055,498 in March, 1941.

Based on monthly earnings figures, net profit of the company for the four months ended April 30 was \$7,905,003, after taxes and charges, equal under the participating provisions of the shares to \$2.96 a share on combined 79,974 shares of 7% participating preferred stock and 2,592,155 shares of common stock, both of \$50 par.

This compares with \$6,555,562 or \$2.45 a share in 1940.

## 75 Locker Plant Operators Attend College Session

COLLEGE STATION, Tex.—Approximately 75 frozen foods locker plant operators from over the state attended the first annual short course on frozen food locker storage conducted May 5-6 under sponsorship of Texas A. & M. College here.

## THE BUYER'S GUIDE

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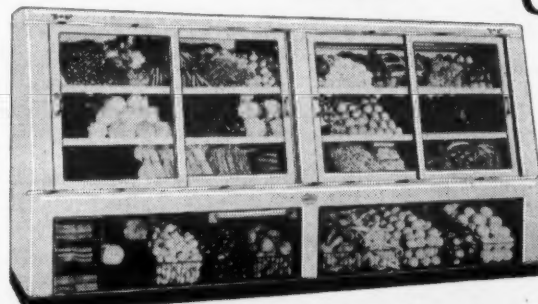
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The FIRST Commercial Control With All Working Parts Made of STAINLESS STEEL

*Ranco Leads Again!*



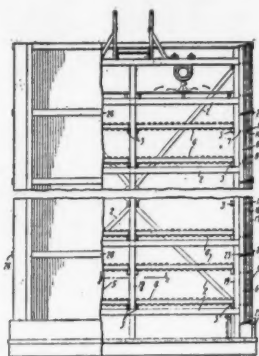


# PATENTS

Weeks of April 29, May 6

2,239,936. **COOLING TOWER CONSTRUCTION.** Edward W. Simons, San Francisco, Calif., assignor to Redwood Mfg. Co., Pittsburg, Calif., a corporation of Nevada. Application April 14, 1939, Serial No. 267,809. 4 Claims. (Cl. 261-111.)

1. A cooling tower having a pair of



opposed side walls, each of said side walls comprising a row of spaced, elongated members in side by side relation, providing a passageway between adjacent members for passage of air to within the tower at one of said side walls and from within the tower outwardly at the other of said side walls, substantially the entire outwardly facing sides of said members

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*One Instrument* UNIVERSAL IN APPLICATION  
FOR PRESSURE CONTROL UP TO 1 H.P.A.C.

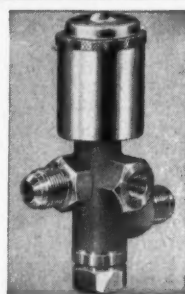
# POLARTRON

MINNEAPOLIS-HONEYWELL  
MINNEAPOLIS-HONEYWELL REGULATOR COMPANY  
2807 FOURTH AVENUE SOUTH, MINNEAPOLIS, MINNESOTA  
CHICAGO PLANT: 1000 EAST PULASKI STREET, CHICAGO, ILLINOIS

REFRIGERATION  
*Control*

*Eight Series 40 Polartron Advantages*

- Separate "On and Off" Knobs
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- Polartron Equipped Compressor can be Connected to Produce Frost-Free Constant Cold
- No Short Cycling
- Universal Range
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**AMINCO No. 881**  
Constant Pressure Valve

A two temperature automatic valve, with built-in check. Ideal for controlling the warmer coils in multiple systems. Shuts off tight. The two-temperature valve keeps walk-in boxes at constant temperature avoiding low pull-down. Adjustable between 20 in. vacuum and 40 lb. pressure. Maintain coil pressure within a 2 lb. differential.

**AMERICAN INJECTOR CO.**

1481-1491 Fourteenth Avenue  
Pacific Coast—Van D. Clothier, 1015 E. 16th, Los Angeles, Calif.  
Export: Borg-Warner International Corp., 310 S. Michigan Ave., Chicago, Ill.

**DAIRY CASE** **WALK IN** **REACH IN** **VEG-I-CASE** **STREAMLINER**

**INCREASE YOUR INCOME WITH PERCIVAL**

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An inexpensive refillable large capacity dryer. It takes only a minute to unsolder the plug at the end of the unit, pour out the old dehydrant and replace it with a new charge.

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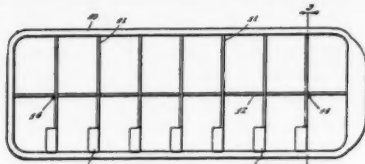
For nearly 40 Years Puro has specialized in drinking water equipment. Many water coolers supply cold drinking water—no other offers the advantage of a self contained purifier—a sales point that means profit to dealers everywhere. Write for complete information about our complete line for all purposes.

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WATER

**ELECTRIC WATER COOLERS**  
Puro Filter Corp. of America, 440 Lafayette St., New York.

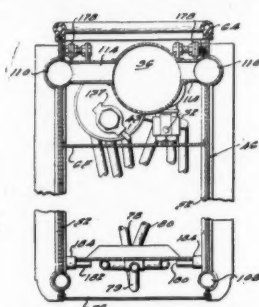
being generally convex in cross-sectional contour to reduce resistance to flow of air to within said tower.

2,240,004. **ICE CUBE TRAY.** Thomas J. Morton, Jr., and Charles A. Bauer, Newburg, Ind., assignors to The Cardinal Corp., Evansville, Ind., a corporation of Indiana. Application March 11, 1938, Serial No. 195,354. 3 Claims. (Cl. 62-106.5.)



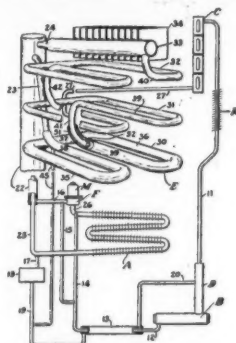
1. In combination, an ice-cube tray, a grid having a longitudinal partition and a plurality of transverse partitions intersecting and rigidly secured to said longitudinal partition and extending from one side of said tray to the other, corresponding ends of said transverse partitions being provided at their upper edges with horizontally extending ears, and a lever adapted to rest upon the top of any of such transverse partitions and to engage beneath the ear of an adjacent transverse partition.

2,240,110. **REFRIGERATING APPARATUS.** John C. Buchanan, Ypsilanti, Mich., assignor to Borg-Warner Corp., a corporation of Illinois. Original application Oct. 30, 1936, Serial No. 108,444. Divided and this application Dec. 19, 1938, Serial No. 246,533. 8 Claims. (Cl. 62-126.)



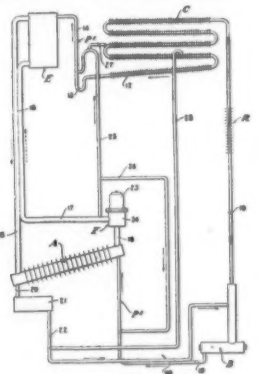
2. Evaporator construction comprising a pair of spaced sheet metal side walls, each of said side walls comprising a pair of plates secured together and arranged to provide upper and lower horizontally extending headers, and refrigerant ducts for interconnecting said headers, said refrigerant ducts including ducts of different cross-sectional area.

2,240,132. **REFRIGERATION.** Curtis C. Coons, North Canton, and William H. Kito, Canton, Ohio, assignors to The Hoover Co., North Canton, Ohio, a corporation of Ohio. Application July 20, 1938, Serial No. 220,187. In Great Britain Aug. 20, 1937. 16 Claims. (Cl. 62-119.5.)



4. Refrigerating apparatus including an evaporator comprising a plurality of vertically spaced serially connected sections, means for propelling a pressure equalizing medium upwardly through said sections, means for supplying liquid refrigerant to said evaporator intermediate a pair of adjacent sections, the arrangement being such that a portion of the liquid flows downwardly counter to the gas stream into the lower of said pair of sections and the remaining portion of the liquid is carried by said gas stream upwardly into said upper pair of sections by the frictional drag of the gas stream flowing thereover.

2,240,173. **ABSORPTION REFRIGERATING APPARATUS.** Curtis C. Coons, North Canton, Ohio, and Rudolph S. Nelson, Larchmont, N. Y., assignors to The Hoover Co., North Canton, Ohio, a corporation of Ohio. Application Dec. 30, 1936, Serial No. 118,284. Renewed May 19, 1939. 26 Claims. (Cl. 62-119.5.)



1. In an absorption refrigerating system of the type using a heavy inert gas, a generator, a condenser, an evaporator, an absorber, and a gas pump for circulating the inert gas, gas lift pumps for lifting liquid refrigerant from the condenser to the evaporator and weak aqua from the generator to the absorber, and means supplying heavy inert gas from the gas pump to said gas lift pumps whereby the gas pump positively circulates the liquids in the system.

2,240,193. **REFRIGERATOR.** Delbert F. Newman, Schenectady, N. Y., assignor to General Electric Co., a corporation of New York. Application May 19, 1939, Serial No. 274,521. 12 Claims. (Cl. 62-1.)

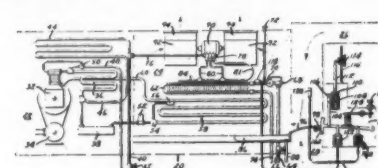
1. In combination with a refrigerator provided with walls defining a storage

compartment and having a cooling unit associated therewith, a food storage receptacle arranged in said compartment and a shield member interposed between said receptacle and a portion of the surface of said shield member presented towards said walls and bodies therein having a relatively low coefficient of absorption of radiant heat for impeding heat transfer from said walls of said compartment and bodies therein to said receptacle.

2,240,294. **REFRIGERATING APPARATUS.** John C. Buchanan, Ypsilanti, Mich., assignor to Borg-Warner Corp., a corporation of Illinois. Application Nov. 20, 1936, Serial No. 111,765. 14 Claims. (Cl. 62-126.)

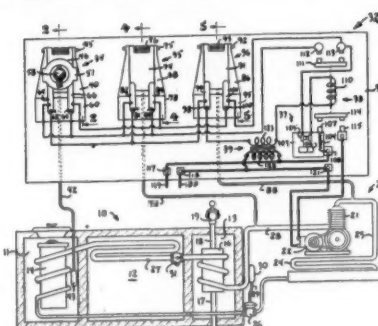
13. In a refrigerating system an air cooling evaporator adapted to be arranged within a heat insulated compartment, a low temperature evaporator arranged within said air cooling evaporator and shielded thereby, means for directing liquid refrigerant to said air cooling evaporator, means for withdrawing liquid refrigerant from said air cooling evaporator and delivering the same to said low temperature evaporator, and means for withdrawing gaseous refrigerant from said evaporators, compressing and condensing said refrigerant, and delivering the same to said directing means, said last means being adapted to establish different suction pressures in said evaporators so as to produce refrigeration in the air cooling evaporator at a temperature higher than that at which refrigeration is produced in the low temperature evaporator.

2,240,354. **REFRIGERATING APPARATUS.** Nelson J. Smith, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application March 29, 1935, Serial No. 13,711. Renewed Nov. 2, 1939. 9 Claims. (Cl. 236-91.)



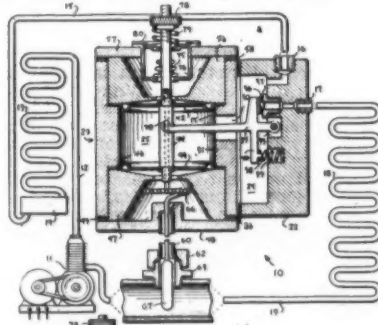
1. Air conditioning means including a source of external air, a source of internal air, damper means for alternately shutting off the supply of internal and external air, means for changing the temperature of the air, manual control means having a yielding connection with said damper means and provided with a setting for shutting off the source of internal air, and means responsive to the temperature of said temperature changing means for moving said damper means to shut off the supply of external air even when the manual control means is set to shut off the supply of internal air.

2,240,373. **REFRIGERATION CONTROL SYSTEM.** Alvin B. Newton, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., a corporation of Delaware. Application March 17, 1938, Serial No. 196,449. 30 Claims. (Cl. 62-4.)



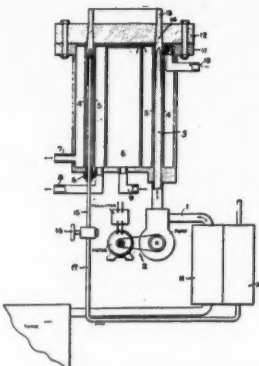
1. In a mechanical refrigerating apparatus having a compressor and evaporator means for controlling the temperature condition of a medium, the combination of means responsive to the temperature condition of the medium being controlled by the evaporator means, means responsive to a condition which is a measure of the temperature of the evaporator means, control means controlled by both of said condition responsive means for starting the compressor when either the temperature condition of the medium being controlled by the evaporator means or the condition which is a measure of the temperature of the evaporator means rise to predetermined values and for continuing operation of the compressor until both the temperature condition of the medium being controlled by the evaporator means and the condition which is a measure of the temperature of the evaporator means decrease to predetermined lower values.

2,240,374. **EXPANSION VALVE.** Alvin B. Newton, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., a corporation of Delaware. Application Aug. 8, 1938, Serial No. 223,601. 7 Claims. (Cl. 62-8.)



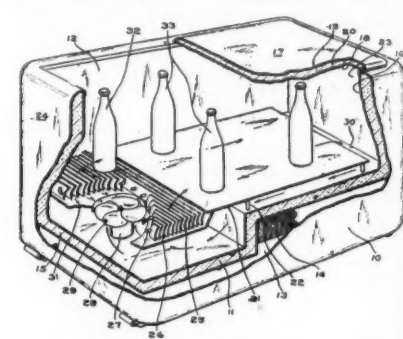
3. In a refrigerating system including an evaporator, means for controlling the flow of refrigerant to the evaporator, said means comprising a valve body separated by an apertured wall into a valve chamber and an operating chamber, said valve chamber including an inlet and an outlet, a valve member in said valve chamber for controlling the flow of refrigerant from the inlet to the outlet, an operating arm for controlling the position of said valve member and extending through the aperture in said wall, a member in said operating chamber movable in response to variations in superheat at the evaporator outlet, said member comprising a pair of parallel arranged diaphragms having their adjacent sides rigidly connected together at their centers and having their edges rigidly secured to the walls of the chamber.

2,240,463. **METHOD OF AND APPARATUS FOR FREEZING LIQUIDS.** Peter Schlumbohm, New York, N. Y. Application March 17, 1938, Serial No. 196,311. In Germany March 17, 1937. 21 Claims. (Cl. 62-106.)



20. The method of producing a continuous extruded mass of solid water ice, comprising: feeding under pressure water to be frozen into a freezing space, refrigerating said space to a freezing temperature and maintaining the pressure there-within to force the medium from the freezing space and continuously constricting the medium sufficiently to form a continuous extruded solid mass of water ice.

2,240,528. **BOTTLE COOLER.** Elio C. Tauer, Springfield, Mass., assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., a corporation of Pennsylvania. Application July 15, 1938, Serial No. 219,311. 7 Claims. (Cl. 62-102.)



1. In a dry bottle cooler, the combination of an insulated chamber, a substantially horizontal shelf therein for supporting bottles, said shelf being spaced from the bottom and from two opposite vertical walls of said chamber, a cooling unit in the space between the shelf and one of said vertical walls, said cooling unit having substantially vertical air passages and a broad upper surface adapted to support bottles, and means for circulating air through said air passages, over said shelf, through the space between the shelf and the other of said vertical walls, and below the shelf to the cooling unit.

2,240,760. **REFRIGERATING APPARATUS.** Leonard F. Clerc, Chicago, Ill. Application Feb. 13, 1939, Serial No. 256,028. 8 Claims. (Cl. 62-140.)

1. In a heat exchange device for refrigerating apparatus, the combination of a casing, a horizontal plate having a plurality of vertical plates secured thereto

(Concluded on Page 17, Column 1)

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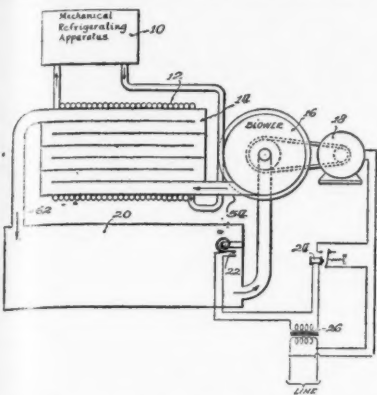
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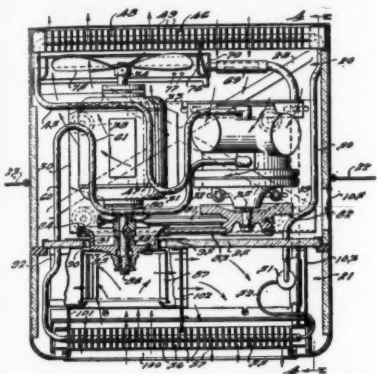
# Patents (Cont.)

(Concluded from Page 16, Column 5)  
to form a baffle structure which, when inserted in said casing, will form a relatively long circuitous passageway, and means in the walls of said casing for



admitting air to one end of said circuitous passageway and discharging air from the other end of said passageway.

**2,240,784. AIR CONDITIONING UNIT.** Bernard W. Jewell, Dayton, Ohio, assignor to Chrysler Corp., Detroit, Mich., a corporation of Delaware. Application Nov. 13, 1938, Serial No. 303,969. 6 Claims. (Cl. 62-140.)



3. An air conditioning unit comprising a partition dividing the unit into a first compartment and a second compartment,



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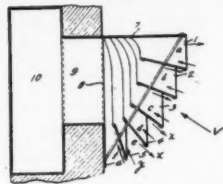
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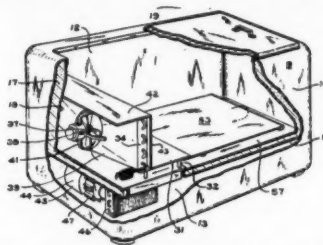
a motor, a compressor, and a refrigerant condenser in said first compartment, an evaporator in said second compartment, said compressor, condenser, and evaporator being connected in refrigerant flow relationship, said motor having its shaft so oriented as to be substantially normal to said partition, a driving pulley fixed to an end of said shaft adjacent said partition and through which the extremity of said shaft projects, a double sheave pulley drivingly fixed to said compressor.

**2,240,991. AIR SUPPLY DEVICE.** Franz J. Kurth, New York, N. Y., assignor to Anemostat Corp. of America, a corporation of Delaware. Application Nov. 23, 1937, Serial No. 176,070. 8 Claims. (Cl. 98-40.)



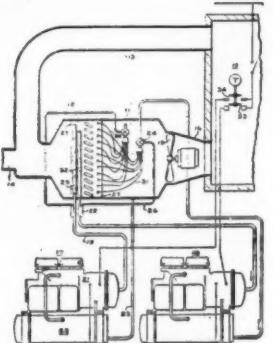
1. An air outlet device of substantially U-shape in end elevation having a flat side and comprising a series of successively smaller, open-ended, hollow, flaring members of substantially U-shape in end elevation and spaced successively inwardly of one another with their smaller ends disposed at the rear or air inlet end of the device to provide therebetween a series of flaring passageways of substantially U-shape in end elevation, and means closing said passageways at the flat side of the device.

**2,241,023. DRY BOTTLE COOLER.** Elio C. Tanner, Springfield, Mass., assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., a corporation of Pennsylvania. Application July 15, 1938, Serial No. 219,312. 4 Claims. (Cl. 62-102.)



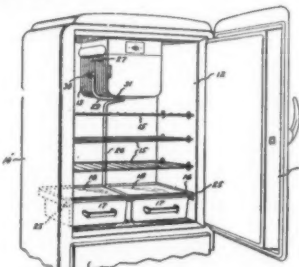
4. In a dry bottle cooler, the combination of an insulated chamber, a shelf therein for supporting bottles, a cooling unit and a fan disposed in the insulated compartment, said cooling unit and shelf forming a side and bottom wall respectively of a bottle storage zone, said fan and cooling unit being arranged to blow chilled air from the cooling unit horizontally and directly over said bottles, said shelf forming the top of a passage for returning air to the cooling unit after it has passed over the bottles.

**2,241,033. AIR CONDITIONING APPARATUS.** Leroy G. Huggins, Mansfield, Ohio, assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., a corporation of Pennsylvania. Application June 2, 1938, Serial No. 211,364. 9 Claims. (Cl. 62-6.)



2. In air cooling apparatus, the combination of a cooling coil unit comprising a plurality of coils arranged in a bank, a common set of fins or heat transfer plates extending across said coils and arranged in heat conducting contact therewith, a first cooling fluid inlet common to alternate coils of said unit, a group of refrigerant distributor tubes respectively connecting said alternate coils to said first inlet, a second cooling fluid inlet common to the intervening alternate coils of said unit, and a second group of refrigerant distributor tubes respectively connecting said last-mentioned coils to said second inlet.

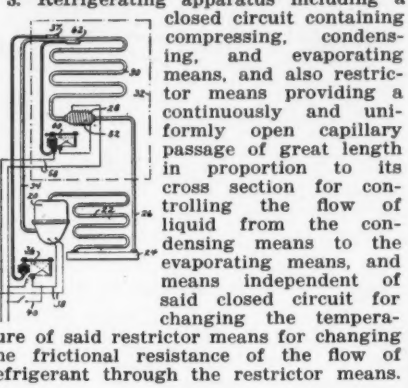
**2,241,053. REFRIGERATING MACHINE.** John B. Brightman, Schenectady, N. Y., assignor to General Electric Co., a corporation of New York. Application April 25, 1940, Serial No. 331,563. 7 Claims. (Cl. 62-89.)



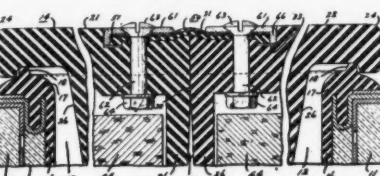
1. A refrigerating machine including a thermally insulated cabinet having a compartment to be cooled, a cooling unit arranged in the upper portion of said compartment, a pan for containing foods to be cooled, a rack arranged within said compartment and having guides for supporting said pan slidably in the lower portion of said compartment, said rack having an elongated chamber therein, and means including a refrigerating system of the secondary type for cooling said rack, said secondary system including said elongated chamber as an evaporating section and having a condensing section secured in heat exchange relation with said cooling unit.

**2,241,066. REFRIGERATING APPARATUS.** Richard E. Gould, Dayton, Ohio, assignor to General Motors Corp., Dayton,

Ohio, a corporation of Delaware. Application Jan. 28, 1939, Serial No. 253,434. 12 Claims. (Cl. 62-8.)

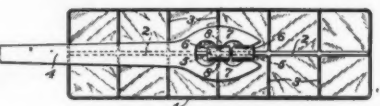


**2,241,101. REFRIGERATING APPARATUS.** Wilford H. Teeter, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application April 6, 1939, Serial No. 266,438. 10 Claims. (Cl. 220-30.)



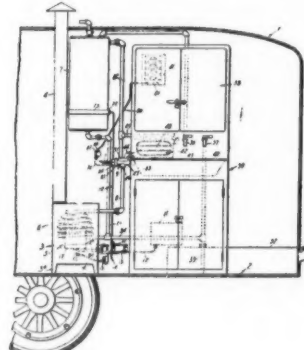
1. In combination with a wall member having an opening adjacent thereto and a movable door member normally closing the opening, a hinge comprising a single piece of resilient non-metallic material extending over a part of said wall member and over a part of said door member and forming the sole connection between said members, means for securing a portion of said hinge to a surface of said wall member adjacent said part thereof, means for securing another portion of said hinge to a surface of said door member adjacent said part thereof.

**2,241,313. ICE TRAY FOR REFRIGERATORS.** James H. Minor, Meridian, Miss. Application Feb. 23, 1938, Serial No. 193,166. 15 Claims. (Cl. 62-106.5.)



1. In an ice tray organization for refrigerators, a tray proper of resilient material, a grid in two sections adjoining each other at an intermediate point lengthwise of the tray, each section being independently removable from the tray and having a longitudinally extending central partition member with fins extending from its opposite sides to provide ice cube pockets, said central partition members being arranged end to end, and a lever for engaging the meeting ends of said partitions for moving them crosswise of the tray in opposite directions relative to each other.

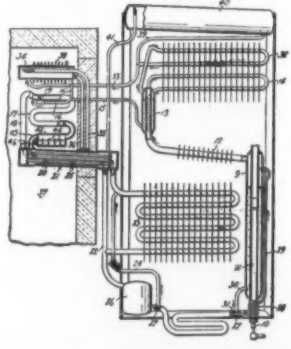
**2,241,328. REFRIGERATING SYSTEM.** Lynn Otis Selby, Hartford, Conn., assignor to The Sparmal Engineering Corp., a corporation of Connecticut. Application Oct. 21, 1936, Serial No. 106,333. 7 Claims. (Cl. 62-5.)



1. A heating and refrigerating system including a closed fluid circulating path and having a fluid for circulation therein when heated, a refrigerator of the absorption type having a generator and having the refrigerant therein heated by said fluid and also having means adapted to circulate the refrigerant when heated, a burner for heating said fluid having its flame controlled by the temperature of said fluid and having means for maintaining at least a predetermined minimum flame therein, and means controlled by the temperature of the refrigerator and controlling the circulation of said heated fluid for variably supplying heat to said refrigerant.

## REISSUES

**21,788. REFRIGERATION.** Wilhelm George Kogel and Per Paul Strandberg,



Stockholm, Sweden, assignors, by mesne assignments, to Servel, Inc., New York, N. Y., a corporation of Delaware. Original No. 2,194,505, dated March 26, 1940, Serial No. 118,558, Dec. 31, 1936. Application for reissue Feb. 12, 1941, Serial No. 378,947. 6 Claims. (Cl. 62-119.5.)

## PATENTS

HAVE YOUR patent work done by a specialist. I have had more than 25 years' experience in refrigeration engineering. Prompt searches and reports. Reasonable fees. **H. R. VAN DEVENTER (ASRE)**, Patent Attorney, 342 Madison Avenue, New York City.

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- ★PROMPT SHIPMENT

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## Buffalo Show Had All the Trimmings



Mayor Thomas L. Holling of Buffalo officiates at the formal opening of the Refrigerator and Range Show sponsored by the Electric Association of the Niagara Frontier. Left to right are: Merrill E. Skinner, past president of the association; Mayor Holling; Walter S. Schmidt, chairman of the electric range committee; R. H. Davison, general show chairman; and Raymond W. Mitchell, association president. Inset shows S. S. Vineberg, executive secretary and show manager.

## Cincinnati Engineers Plan Full Program For ASRE Conclave

(Concluded from Page 1, Column 1) P. F. McDermott, Johns-Manville Sales Corp.; "Reversed-Cycle Refrigeration for Air Conditioning Work," by R. D. Heitchue, Westinghouse Electric & Mfg. Co.; "Strategic and Substitute Materials in the Defense Program," by H. W. Gillett, Battelle Memorial Institute; and "Measurement of Heat Generated by Fruits and Vegetables," by W. P. Green, W. V. Hukill, and D. H. Rose, U. S. Department of Agriculture.

At the second technical session on May 29, with W. R. Hainsworth as chairman, discussions will cover "Quick Frozen Foods and Refrigeration," by Harry Carlton, University of Tennessee; "Cooler and Condenser Heat Transfer with Low Pressure Freon Refrigerant," by Walter Jones, Carrier Corp.; "Refrigeration and Air Conditioning in the Defense Industries," by Andre Merle, engineer, Quartermaster Corps; and "Transient Heat Flow in Calculating Air Conditioning Loads," by Emerson M. Pugh, Carnegie Institute of Technology.

The luncheon meeting on May 28 will have as speaker Mayor James G. Stewart of Cincinnati, while on the following day discussion luncheons of the standards committee, technical committee, and locker committee will be held, with attendance at either of the sessions open to all persons interested.

Technical sessions have been scheduled only on the mornings of the two meeting days, leaving the afternoons open for golf and other diversions. Annual A.S.R.E. golf tournament will be held at the Hyde Park Country Club on May 28 and 29, and the annual dinner-dance will be held at the same club on May 29.

Other entertainment will include a "family party" on the night of May 27, and a boat ride and dinner at Coney Island on May 28.

## Kelvinator To Produce Propellers In Plant At Lansing, Mich.

(Concluded from Page 1, Column 1) will be needed when the propeller plant is placed in full operation.

Complete propeller assemblies of a recently designed type to power the large planes of the army and navy will be produced. They will be Hamilton Standard propellers, and Nash-Kelvinator will make them under license from United Air Craft Corp., owner of Hamilton Standard Co.

High precision machines and craftsmanship are required to produce the assemblies, and so most of the employees who will work with Nash-Kelvinator production engineers will be highly skilled mechanics, company officials said.

The Reo property acquired by the Defense Plant Corp. is located east of Cedar St. in Lansing.

## Nearly 200 Units Sold On Buffalo Show Floor

BUFFALO—More than 42,000 persons attended the recent 1941 Refrigeration & Range Show of the Electric Association of the Niagara Frontier in the Electric Building.

A total of 196 refrigerators and 32 ranges were sold off the floor, and at least five times as many prospects were lined up, which will be followed by dealers for the remainder of the season, declared Samuel S. Vineberg, association manager.

"A significant thing about this year's show," Mr. Vineberg said, "was that most of the visitors were interested buyers. There were few casual onlookers or prize-seekers. It was one of the most responsive groups electrical appliance salesmen have encountered in this area in a long time."

While the show primarily was conducted by distributors and manufacturers, the practice was to allow dealers and salesmen to man the booths a great deal of the time and all principal retail outlets in the Buffalo area took advantage of this opportunity.

The products of each manufacturer were displayed in especially decorated booths. The timing of the show was so planned to develop a final push to put persons in the buyer's column who have neglected to purchase a new electric range or electric refrigerator this spring.

Heavy promotion insured success of the show. Every electric light bulb delivered during the four-week period prior to the opening of the show carried an enclosure drawing attention to the exhibit. This was supplemented during the week prior to the show by 400 bumper cards which appeared on power company trucks. For two days before the show opened until the closing day, 480 poster cards were displayed on as many buses and street cars in active service on the streets of Buffalo and suburbs.

A daily advertisement appeared in Buffalo newspapers which was supplemented by range and refrigerator advertisements placed by dealers and distributors to heighten the interest of the public in these products. Publicity stories also were carried in local newspapers.

R. H. Davison was general manager of the show, with Walter S. Schmidt as co-chairman.

## Battle Lines Drawn In Coast Trust Law Case

(Concluded from Page 1, Column 5) here (the department of justice agents did the investigating) indicate that he is employing the only method to attack the state's fair trade law, the first to be enacted in this country, inasmuch as the United States Supreme Court in 1936 upheld validity of the act.

While fair trade laws in themselves set up vertical contracts (contracts between manufacturer and retailer or contracts between wholesaler and retailer), Mr. Arnold contends that the enforcement of the law is not carried out without some measure of horizontal price pacts.

## Stiffen Time Payment Plans, Stores Urged

(Concluded from Page 1, Column 5) tighten terms further by reducing the maximum time for payments to 18 months and increase the amount of down payment to 15% of the price of the goods.

If business does not act, Mr. Hagios asserted, the government can be depended upon to take steps to bring about changes which it is known that Washington feels are necessary.

Mr. Hagios placed the amount of consumer credit outstanding at the present time as approaching the \$9,000,000,000 mark. Proponents of plans to control consumer credit by federal action, he said, hope to induce within a year a contraction of at least \$3,000,000,000 "without substantial social hardships, or use of oppressive compulsions."

Mr. Hagios called attention to a report by Rolf Nugent of the Russell Sage Foundation, which he said had "(3) Production of consumers' durable goods as a whole could be more readily sacrificed, for at least a period of several years, than most other types of production. Stocks of such goods presently in the hands of consumers, are capable of continued use over a considerable time."

"(4) The leveling down of consumers' inventories of durable goods would create a tremendous reserve demand which could be counted upon to facilitate transition to a peace-time economy."

## Mr. Benton Promotes



G. B. Benton, advertising manager of Minneapolis-Honeywell Regulator Co., is one of a special 100-man committee named to publicize the Minneapolis Aquatennial, outdoor sports festival to be held July 12 to 20.

been carefully studied in Washington. This report, he said, sets forth certain advantages of curtailing installment sales at this time, among them the following:

"(1) The consumers' durable goods industries in general are readily adaptable to the production of war materials."

"(2) If plants manufacturing consumers' durable goods were not specifically developed to war production, their skilled and engineering ability would be badly needed elsewhere."

## 'War of Metals' Places Burden on All Trades

(Concluded from Page 1, Column 3) thought in terms of cost and excess post-war capacity rather than national defense.

"In any case, the most immediate and practical solution appears to be a curtailment of civilian consumption."

"Any efforts to dodge the entire problem by piling up a forward supply of metals, before the other fellow does, is a move which is at one stroke unpatriotic, temporary, and probably futile. Undoubtedly this served to hasten the application of rigid control to the output of aluminum and now to nickel-bearing steel. It is not beyond possibility that every type of steel and even pig iron will soon be controlled in the same way."

## March Big Month For Air Cooling In Chicago

(Concluded from Page 1, Column 1) 1940; and 44, aggregating 2,157 hp. in March, 1937, the previous record.

General Offices .....	13
Restaurants .....	10
Fur Stores .....	5
Bowling Alleys .....	3
Drug Stores .....	3
Shoe Stores .....	3
Candy Factories .....	2
Clothing Stores .....	2
Food Stores .....	2
Miscellaneous Stores .....	2
Misc. Industrial Plant .....	1
Private Office .....	1
<b>Total .....</b>	<b>47</b>



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